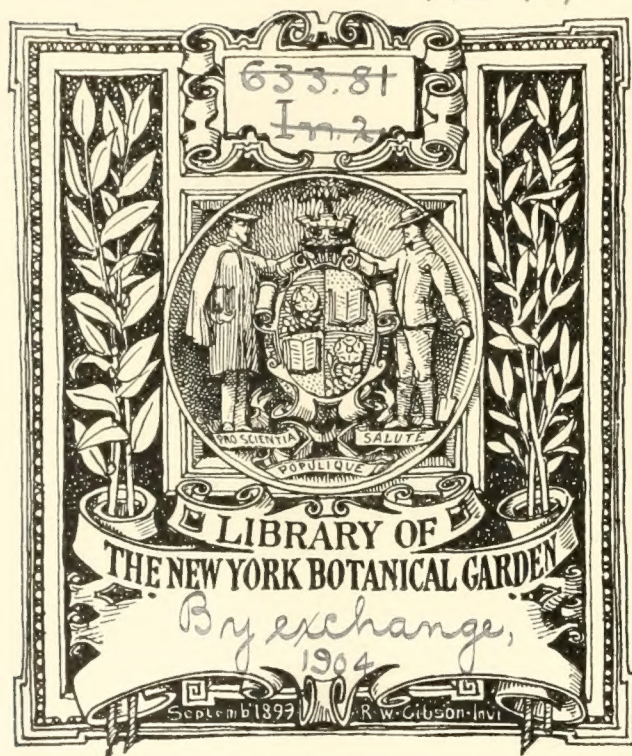






XI .N4

















XT  
N4  
v. 28  
1903



The BEST BUCKLES for ARCTICS  
ARE MADE BY  
THE WELD MFG. CO.,  
41 Lincoln Street, - - Boston.

"Cravenette"  
RAIN COATS

Must have this Circular  
Trade Mark stamped in  
inside of coat.....



# INDIA RUBBER WORLD

CAOUTCHOUC

HEVEA BRASILIENSIS

DICHOPSIS GUTTA

GUTTA-PERCHA

Edited by HENRY C. PEARSON—Offices, No. 150 Nassau Street, NEW YORK.

Vol. XXVIII. No. 1.

APRIL 1, 1903.

35 Cents a Copy.  
\$8.00 Per Year.

## THE ALDEN RUBBER CO., BARBERTON RUBBER WORKS, MANUFACTURERS OF RUBBER GOODS.

The  
MASTER KEY  
Rubber Tiling.

Noiseless,  
Non Conducting,  
Non Slipping.

The ideal floor for  
Offices, Banks, Vesti-  
bules, Elevators and  
especially for places  
where electrical cur-  
rents abound.

Beautiful Color Effects.  
Designs Furnished.



THIS TRADE MARK GUARANTEES FULL VALUE.

AKRON, OHIO and BARBERTON, OHIO, U.S.A.  
Akron Office, Arcade Block—Main Office and Works at Barberton

LONG DISTANCE TEL., AKRON EXCHANGE NO. 999.  
CABLE ADDRESS "ARCO AKRON."

BICYCLE,  
AUTOMOBILE  
AND  
VEHICLE  
TIRES,  
HOSE,  
PACKING,  
VALVES.  
MOLDED  
GOODS,  
FRUIT JAR  
RINGS.  
WHITE  
TUBING.

CHLORIDE OF SULPHUR  
AND  
BISULPHIDE OF CARBON  
GEO. V.  
SPEIGHT,  
106 Fulton St. N. Y.

Mention the India Rubber World when you write

**LAMPBLACKS especially for RUBBER MANUFACTURE.**  
SAMUEL CABOT, BOSTON, MASS

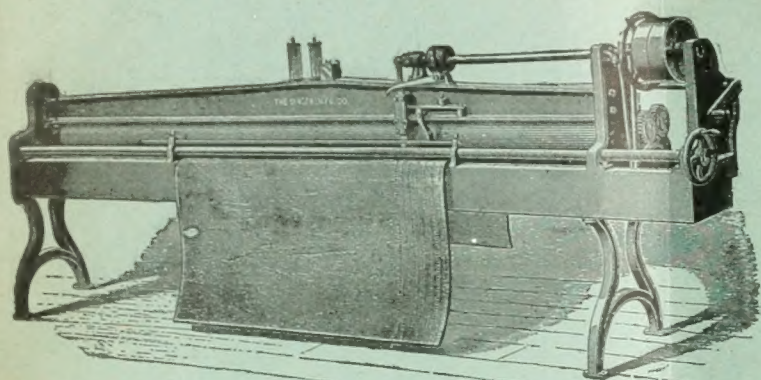


# For Stitching Rubber Belting

HIGHEST AWARD AT COLUMBIAN EXPOSITION.

Machine No. 9-1: For Stitching Parallel Rows on Canvas or Rubber Belting.

POINTS OF EXCELLENCE.



- 1.—Two needles and two oscillating shuttles for forming two parallel lock-stitch seams in heavy canvas and rubber belting up to 100 inches wide and one and one-half inches thick.
- 2.—Powerful feed-rolls 16 feet long, capable of carrying material of several tons' weight, have a bearing the entire width of the material, thus ensuring uniformity and regularity in carrying forward the several thicknesses and giving elasticity to the stitching.
- 3.—The mechanical arrangement for raising and lowering the upper feed roller by means of a horizontal shaft extending the entire length of the machine, connected with the hinged bearings of the roller by bevel gears at each end and so operated as to be easily adjusted to any thickness of material.
- 4.—Largest and strongest sewing machine ever constructed, having a bed eighteen feet in length, with overhanging arm supported by and attached to both ends of the bed.

Salesrooms in Every City.

Machines shown in practical operation at

NEW YORK—Broadway and Prince Street.

BALTIMORE—11 North Charles Street.

ST. LOUIS—1124 Olive Street.

BOSTON—128-132 Essex Street.

CHICAGO—260-262 Fifth Avenue.

TROY, N. Y.—251 River Street.

PHILADELPHIA—1210 Chestnut Street.

CINCINNATI—115 West Third Street.

INDIANAPOLIS—126 W. Washington St.

ST. PAUL—402 Jackson St.

## THE SINGER MANUFACTURING CO.

BEST IN THE MARKET

# Cable's Carriage Cloth

*New Factory Buildings.*

*Prompt Shipments.*

*New Machinery.*

*Samples Freely Furnished.*

## CABLE RUBBER COMPANY,

70-72 ESSEX STREET, BOSTON, MASS., U. S. A.

*Mention The India Rubber World when you write.*

# RESERVED

SEE OUR MAY ISSUE.



# Forsyth Combination Metal Insertion Packing



Patented April 11, 1899.

will satisfactorily withstand the heat of high pressure steam. It is a high grade rubber packing with one or more plies of pliable sheet metal insertion. A successful packing that satisfies where other packings fail.

## CAUTION.

As the exclusive manufacturers of sheet metal insertion rubber packing, under a patent issued April 11, 1899, to James Bennett Forsyth, we caution all parties against making, selling or using any rubber packing with sheet metal insertion that in any way infringes said patent.

**Our line of Packings for all purposes  
is most complete.** We solicit your  
inquiries...

**BELTING,  
HOSE of all kinds.  
GASKETS, VALVES,  
DECKLE STRAPS.**



The Trade Mark of Excellence.

**RUBBER COVERED  
ROLLERS.  
MATS, MATTING, TUBING,  
Etc.**

# BOSTON BELTING CO.

JAMES BENNETT FORSYTH, Genl. Mgr.

**Original Manufacturers of VULCANIZED RUBBER GOODS.**

Boston,	New York,	Buffalo,	Chicago,	St. Louis,	Milwaukee,	St. Paul,	Seattle,
Philadelphia,	Baltimore,	Atlanta,	Mobile,	New Orleans,	Memphis,	Cincinnati,	
Pittsburgh,	Detroit,	Cleveland,	Indianapolis,	Kansas City,	San Francisco,	Portland.	

*Mention The India Rubber World when you write.*





GOLD MEDAL AWARDED  
at  
PAN-AMERICAN EXPOSITION.  
1901.

## EUREKA FIRE HOSE CO.,

13 BARCLAY ST., NEW YORK.

MANUFACTURERS OF THE CELEBRATED BRANDS

“RED CROSS” (One Ply) “PARAGON” (Two Ply) “EUREKA” (Three Ply)  
“U. S.” Brand Rubber Lined Cotton Fire Hose

Adopted as the Standard Factory Fire Hose by the Associated Factory Mutual Fire Insurance Companies, for Factory and Mill Fire Protection.

COTTON and LINEN HOSE of all grades, both plain and rubber-lined. All sizes.

These Goods are especially adapted for use in Woollen, Cotton, Silk, Print, Knit Goods and Carpet Mills, Dyeing and Bleaching establishments, Pulp and Paper Mills, Breweries and Distilleries, Sugar Refineries, Ice and Refrigerating Machinery, Chemical Works, Tanneries, etc. *Samples and full information given on application.*

## COTTON HOSE,

We Spin, Weave, and Line Our Own Goods.

## GARDEN HOSE,

New Lines—New Methods.

## BELTING and PACKING.

Empire Rubber Mfg. Co.,

NEW YORK.

CHICAGO.

BOSTON.

ST. LOUIS, MO.

Factories: TRENTON, N. J.

*Mention the India Rubber World when you write*

## CONTINENTAL TYRES, CONTINENTAL MECHANICAL RUBBER GOODS.

CONTINENTAL CAOUTCHOUC & GUTTAPERCHA CO.,  
Hanover, Germany.

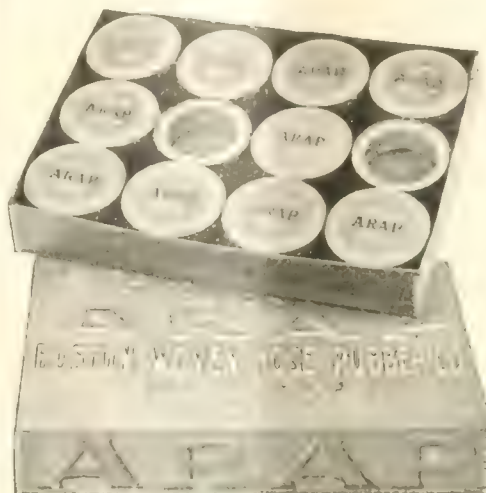
*Mention The India Rubber World when you write.*



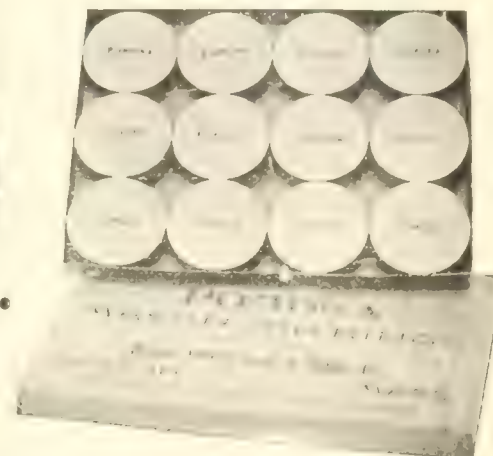


Send for Samples and Prices

# FRUIT JAR RINGS



Our rings in bulk are not shipped loosely in barrels but in *one pound cylindrical boxes* for which we make no extra charge.



## Boston Woven Hose & Rubber Co.

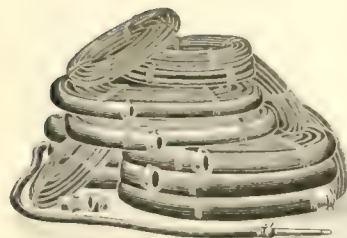
CAMBRIDGE, MASS.

Branches: Boston, New York, Philadelphia, Buffalo, Pittsburg, Chicago, St. Louis, San Francisco, Cleveland,

Mention *The India Rubber World* when you write.

ALL GOODS BEARING OUR BRAND ARE FULLY GUARANTEED."

## HIGH CLASS RUBBER GOODS.



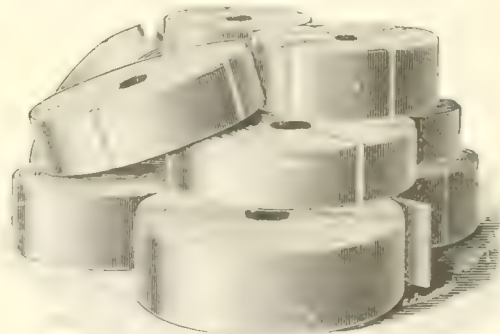
### NEW PLANT

The most improved machinery, Up-to-date methods coupled with experienced workmen and capable supervision enable us to meet any competitor and give us an advantage over many.

### We Make

Hose, Belting, Packing, Valves, Gaskets, Mats, Matting, Linen and Cotton Hose,

and many specialties as well as they can be made when the ability to turn out first grade goods is united with the willingness to do so.



Our "Nubian" Packing is adapted for high or low pressure. It is guaranteed to stand higher temperature than any other packing, and will retain its strength and pliability under conditions that destroy other packings. Flat and Tubular Gaskets made from "Nubian" Stock.

## Voorhees Rubber Manufacturing Co.

BRANCH STORE

175-177 Lake St., Chicago.

Mention *The India Rubber World* when you write.

18-40 BOSTWICK AVENUE,  
JERSEY CITY, NEW JERSEY.





# The Fishing Season

....is at hand....

We make a line of **Sportsmen's Clothing** including **Macintosh** and **Rubber Surface Waders**, as well as **Coats, Caps, Clothing Bags** and other necessary articles. Booklet upon application.

**HODGMAN RUBBER COMPANY,**

806-808 BROADWAY, Opposite Eleventh Street,

**NEW YORK.**

*Mention The India Rubber World when you write.*

**BEFORE YOU PLACE YOUR CONTRACT**

**....FOR....**

**G A R D E N   H O S E**

**WRITE US FOR SAMPLES AND PRICES.**

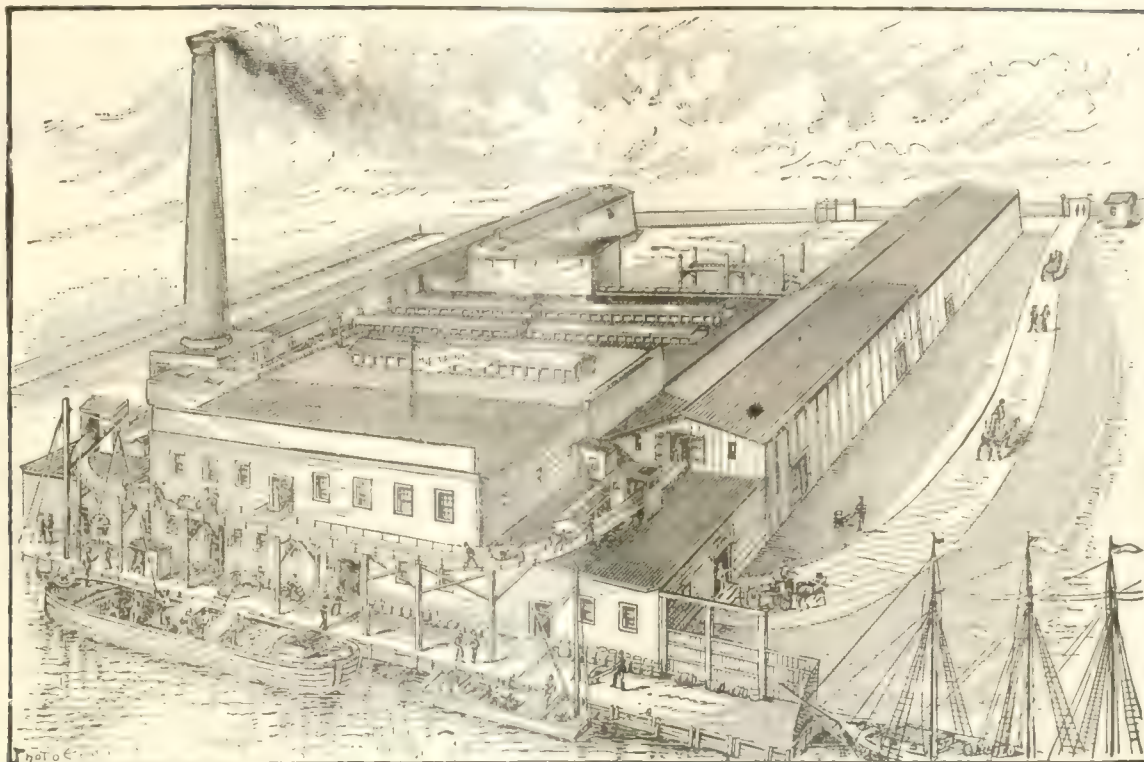
**TEN DISTINCT GRADES, EVERY ONE A WINNER.**

**CRESCENT BELTING & PACKING Co.**

**TRENTON, N. J.**

*Mention The India Rubber World when you write.*





## The H. F. Taintor Mfg. Co.

are the largest manufacturers of Whiting and English Cliffstone Paris White in this country.

All grades of Whiting prepared especially for use of Rubber Manufacturers, finely ground and bolted and *very* dry.

The "Westminster" brand of English Cliffstone Paris White is the finest made in the world, and is particularly suited to manufacturers of fine Rubber goods and specialties.

Samples can be had by mail.

Address

***No. 101 Beekman St.,  
New York City.***

*Mention The India Rubber World when you write.*



FACTORIES AT MATTEAWAN, DUTCHESS CO., N. Y.

# NEW YORK RUBBER COMPANY.

INCORPORATED 1851.

Manufacturers of

**BELTING,  
HOSE,  
PACKING,  
ETC.**

**OF SUPERIOR QUALITIES.**

WAREHOUSE AND OFFICE:

**84 AND 86 READE, COR. OF CHURCH STREET, NEW YORK.**

Address P. O. Box 1160.

**HIGH GRADE  
Lawn and Garden Hose  
A SPECIALTY.**

**HIGH GRADE  
Lawn and Garden Hose  
A SPECIALTY.**

*Visit The India Rubber World when you write.*

## BELTING



FOR  
Transmitting  
Elevating  
Conveying

## JAR RINGS WASHERS BANDS PACKING



FOR  
Steam  
Water  
Oil  
Acids  
Air, Etc.

## GRAIN DRILL TUBES MOLDED WORK CUSHION TIRES BABY CAB TIRES VALVES



## HOSE

FOR  
Steam  
Water  
Oil  
Acids  
Suction  
Air, Etc.

**THE WHITMAN & BARNES MFG. CO.**

Kansas City  
New York  
Chicago

RUBBER WORKS,

AKRON, OHIO

St. Catharines  
Cincinnati  
Syracuse

London

*Whitman & Barnes Mfg. Co. New York*



It is Oil Proof,  
It is Acid Proof.



*It is perfection for a Steam Joint.*

*Try It.*

*You will have the proof.*



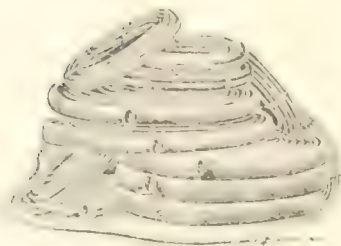
# NEW JERSEY CAR SPRING & RUBBER CO.

General Offices and Works, - - - Jersey City, N. J.  
 New York, - - - - - 10 Barclay St.  
 Chicago, - - - - - 16 North Canal St.  
 Cleveland, - - - - - 190 Seneca St.  
 Philadelphia, - - - - - 722 Arch St.

MANUFACTURERS OF

## High Grade Rubber Goods

"Our name and brand a guarantee of quality."



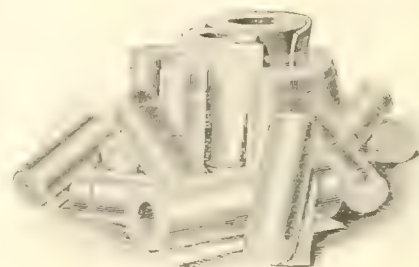
Air Brake Hose Rubber Belting  
 Steam Hose Steam Packing  
 Fire Hose Mats and Matting  
 Water Hose Valves, etc.

"Antimony" Red Sheet Packing

"Hemisphere" Rubber Matting

Rubber Lined Cotton Fire Hose

Mechanical Rubber Goods for all purposes.



J. A. FIELDS, President.  
 J. J. FIELDS, Vice-Pres't.

GEO. B. DICKERSON, Sec'y.  
 TOWNSEND COCKS, Treasurer.

*Mention The India Rubber World when you write.*

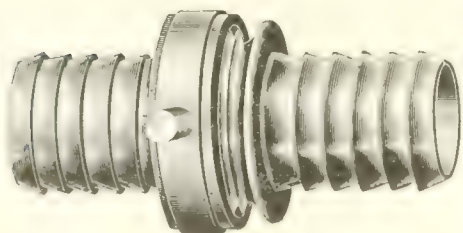
### Hose Couplings, Regular Shank.

Steam Hose Couplings

Automatic Couplings,

Pipes, Caps, Nipples,

Lawn Sprinklers.



A full line of Staple Hose Brass Goods, made from improved up to date patterns. Good metal and machine work. Write for catalogue and prices.

H. B. SHERMAN MFG. CO.,  
 BATTLE CREEK, MICH.

*Mention The India Rubber World when you write.*

For HIGH GRADE

### Pneumatic Bicycle Tires and Solid Carriage Tires

Write to

**KOKOMO RUBBER CO.**

KOKOMO, INDIANA.

*Mention The India Rubber World when you write.*

### Lake Shore Rubber Co.

Manufacture Mechanical Rubber Goods,

**HOSE, BELTING, PACKING, VALVES,  
 GASKETS, ELECTRICAL TAPE, OIL  
 WELL SUPPLIES, Etc.**

WRITE FOR PRICES AND SAMPLES.

Office and Works, ERIE, PA.

*Mention The India Rubber World when you write.*



New York Philadelphia Trenton, N. J. Chicago St. Louis Pittsburgh

35 WARREN ST.

208 N. 4th ST.

MAIN OFFICE

21 So. CANAL ST. WAINRIGHT BLDG.

326 4th AVE.

FOR

# GARDEN HOSE

For the Season of 1903

—ADDRESS—

TRENTON RUBBER MFG. CO.

Trenton, N. J.

*We would be glad to send Samples and Quote.*

*Mention The India Rubber World when you write.*



# THE MANHATTAN RUBBER MFG. CO.

ADDRESS  
MIALOGIA.

18 VESEY STREET, NEW YORK.

7260 CORTLANDT  
7261 CORTLANDT  
7262 CORTLANDT

BELTING  
HOSE  
PACKING  
TUBING  
MATTING  
ROLLS



GASKETS  
TILING  
MOULDED  
GOODS  
IN EVERY  
VARIETY

MAKERS OF

## Mechanical Rubber Goods.

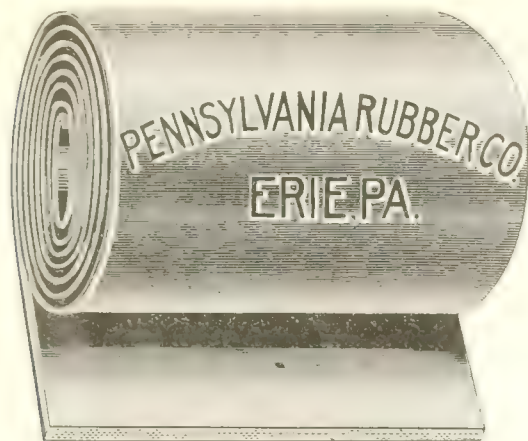
Factories: PASSAIC, N. J., on D. L. & W. R. R.

*Mention The India Rubber World when you write.*

FACTORIES: JEANNETTE, PENNSYLVANIA.

### PENNSYLVANIA RUBBER CO.

Branches: NEW YORK, (127 Duane St.)  
CHICAGO. PITTSBURGH. BOSTON.



### MECHANICAL RUBBER GOODS

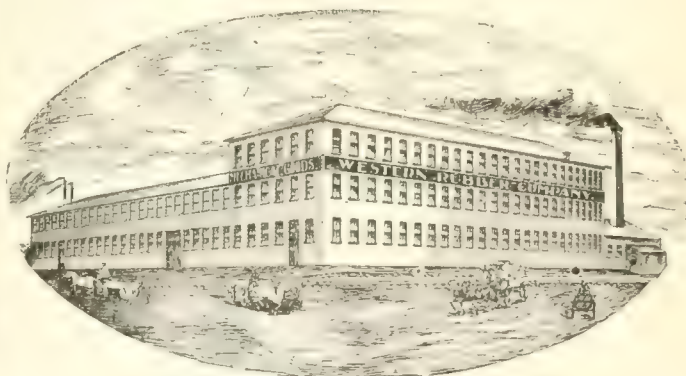
FOR { MINES, MANUFACTORIES,  
POWER PLANTS,  
RAILROADS, STEAMSHIPS, ETC.

Bicycle, Carriage AND Automobile TIRES

*Mention The India Rubber World when you write.*

### Western Rubber Company,

GOSHEN, - - - INDIANA.



...Manufacturers of...

Tires, Inner Tubes,  
Splicing Compound,  
Packing,

Rubber Horse Shoe Pads,  
Rubber Heels,  
Matting, Mats,  
Patented Specialties,  
Mould Work,

Plumbers' Supplies,  
Stamp Makers' Supplies  
Electrical Supplies,  
Sundries, Etc.

*Mention the India Rubber World when you write*



# HARD RUBBER GOODS

RODS

TUBING

SHEETS

MOULDED WORK

## COTTON RUBBER LINED HOSE

GARDEN

MILL

FIRE

## UNLINED LINEN HOSE

## MECHANICAL RUBBER GOODS

HOSE

BELTING

PACKING

GASKETS

SHEETS

VALVES

# JOSEPH STOKES RUBBER CO.

TRENTON, NEW JERSEY



ESTABLISHED 1874.

## DAVOL RUBBER COMPANY

MANUFACTURERS OF  
FINE RUBBER GOODS  
IN SOFT AND HARD RUBBER

PROVIDENCE, RHODE ISLAND, U.S.A.

*Mention The India Rubber World when you write.*

## THE FAULTLESS RUBBER CO.

AKRON, OHIO, U. S. A.

MANUFACTURERS OF

High Grade Seamless and  
Seamed Rubber Goods  
and Specialties.

CORRESPONDENCE SOLICITED.

*Mention The India Rubber World when you write.*

## DAVIDSON'S

R

Syringes,

U

U

Atomizers,

N

G

Nipples,

D

G

Sheeting,

R

I

Tubing,

I

S

Water Bottles,

E

T

Golf Balls,

S

S

AND  
Special Goods To Order.

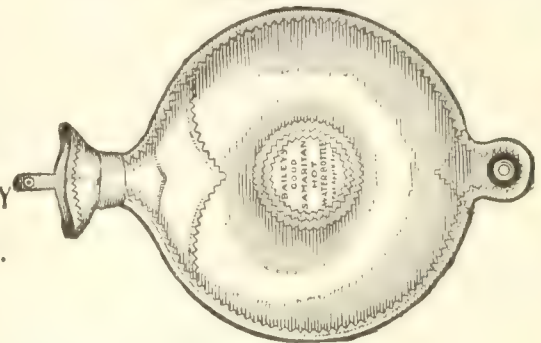
Davidson Rubber Co.,

19 Milk Street, BOSTON, MASS., U. S. A.

*Mention The India Rubber World when you write.*

## Bailey's "GOOD SAMARITAN" Hot Water Bottle.

TRADE-MARK

IT  
FITS  
EVERY  
SPOT.SOFT  
AS A  
PIL-  
LOW.

MADE hollow disk in shape it adjusts itself to all parts of the body, and lays on it without holding or strapping. Being only about half the thickness of the ordinary water bottle, when filled, it is easy to place under the patient and comfortable to lie on.

For pain in the ear, teeth or face, the hollow disk gives to the affected parts hot air or steaming by placing in it a sponge wet with spirits or water.

Butoning the two ends of the bottle together makes a perfect heater for the feet or to stand next to the body.

Only the best of material and workmanship are used in its construction, and every bottle is guaranteed.

5 inch diameter.....	Face Size, \$ 7.50 Doz.
8 inch diameter.....	10.00 "
10 inch diameter.....	12.00 "
11 inch diameter.....	15.00 "

MANUFACTURED BY—  
 DAVOL RUBBER CO., Providence, R. I. TYER RUBBER CO., Andover, Mass.  
 THE B. F. GOODRICH CO., Akron, O. THE SEAMLESS RUBBER CO., New Haven.  
 HODGMAN RUBBER CO., New York. HARDMAN RUBBER CO., Belleville, N. J.  
 IDEAL RUBBER CO., Brooklyn, N. Y. MECHANICAL RUBBER CO., Cleveland.  
 C. J. BAILEY & CO., Patentees, No. 22 Boylston Street, Boston.

The Rubber Specialty Co.,

AKRON, OHIO,

MANUFACTURERS OF

Druggists' and Stationer's  
Sundries.

Specialties in Moulded Work, etc. Expert Work in  
developing inventions a specialty. . . . .

M. J. GILBO,  
Pres't and Treas.JOHN FRANK,  
Secretary.*Mention The India Rubber World when you write.*



# AMERICAN HARD RUBBER CO.,

THE INDIA RUBBER COMB CO.  
THE BUTLER HARD RUBBER CO.  
THE GOODRICH HARD RUBBER CO.

9-13 MERCER STREET, NEW YORK, U.S.A.

MANUFACTURERS OF

## COMBS, SYRINGES, CROWN WATER BOTTLES, DRUGGISTS' & STATIONERS' SUNDRIES.

EVERY DESCRIPTION OF HARD RUBBER GOODS.

*Mention The India Rubber World when you write.*

## YATMAN RUBBER CO.,

MOULDED SPECIALTIES  
IN SOFT RUBBER.  
ERASIVE RUBBER.

OFFICE AND FACTORY:

No. 608 Passaic Avenue,  
HARRISON, N. J.

TELEPHONE:  
523 HARRISON.

WRITE FOR ESTIMATES.

*Mention The India Rubber World when you write.*



If your  
rubber  
goods are  
made by



Try Lyon Pat. Grain Glove.

THE LYON RUBBER CO.,  
AKRON, OHIO,

Mfrs. of Druggists' Sundries and Rubber Specialties of all kinds, **THEY WILL HOLD.** We still have a lot of our **WILL IT HOLD** calendars. Drop us a card and get one. Our **PRICES** are **RIGHT**, and the Goods are better than the price. Write for our Price List.

*Mention The India Rubber World when you write.*

## The Akron Commercial Co.,

Animal, Vegetable and Fish Oils,  
Chemicals and Supplies for - - -

### POTTERIES, PLATERS AND RUBBER MANUFACTURERS.

WAREHOUSE AND TRANSFER,  
MANUFACTURERS' AGENTS, Etc.  
**AKRON, OHIO.**

Office: 366 SOUTH MAIN STREET. Telephone, 894.

Warehouse: WEST CENTER STREET. " 422.

*Mention the India Rubber World when you write.*

## RUSSIAN-AMERICAN INDIA RUBBER CO.,

ST. PETERSBURG (Russia).

**All kinds of Overshoes.**



Articles for Technical  
and Surgical Use.

TOYS AND DOLLS. CLOTHING.

*Mention The India Rubber World when you write.*

MOLD WORK A SPECIALTY.



## SPONGES

We are the first in the United States to make Rubber Sponges. Call for samples and prices.

### CHICAGO TIRE & RUBBER CO.

329-331 West Kinzie Street, - - CHICAGO, ILL.

*Mention The India Rubber World when you write.*

## THE PURE GUM SPECIALTY CO.,

BARBERTON, OHIO.

MANUFACTURERS OF

TUBING (All kinds), PURE GUM GLOVES (Any weight).  
STEAM CURED GLOVES, HOUSEHOLD GLOVES  
(Any color), FINGER COTS (All kinds),  
FACE MASKS, ICE BAGS, ICE  
CAPS, SLEEVES, NIPPLES,  
BEAUTY BRUSHES.

**Moulded Goods A Specialty.**

RUBBER SPECIALTIES OF ALL KINDS  
ALL GOODS GUARANTEED

*Mention The India Rubber World when you write.*



In Every  
Essential  
Requirement

BANIGAN  
RUBBERS

Are Unexcelled



SEND YOUR ORDERS TO 

Edward R. Rice, Buffalo.

C. L. Weaver & Co., Boston.

Edward R. Rice, Chicago.

American Hand Sewed Co., Omaha.

Linthicum Rubber Co., Baltimore.

*Mention The India Rubber World when you write.*

# The New 1903 Champion



## The Best Champion Tennis Shoe Yet—and Why

Here's a cut of the new 1903 Champion. It is by far the finest low-priced Tennis shoe we have offered yet. Notice the wide foxing.

That's the distinctive feature of the new Champion. That's what makes the shoe so good.

That wide foxing adds enormously to the strength of the shoe, without adding perceptibly to its weight.

You can see at a glance what an improvement it is—and yet the price stays the same.

If you will drop us a postal, we will mail you our Illustrated Price List, showing our whole line of sporting goods.

For Tennis address our Boston office:

## UNITED STATES RUBBER CO.

101 Milk Street, Boston, Mass.



# RAINBOW PACKING.

Makes a Steam Flange and Hot Water Joint Instantly.

Don't have to use wire and cloth  
to hold Rainbow.  
Can't blow it out.



Thousands of Imitators.  
No Equal.  
Will Hold Highest Pressure.

THE COLOR OF RAINBOW PACKING IS RED.

Note Genuine without our Trade Mark, the word "Rainbow" in a Diamond in black in three rows of Diamonds extending throughout the entire length of each and every roll of Rainbow Packing.

## Peerless Rubber Fire Engine Hose.

We would call the attention of those desiring to purchase Fire Hose to the fact that we have in the New York Fire Department, Hose which has been in **constant use for over eight years and shows no sign of giving out.**

### Peerless Suction Hose.

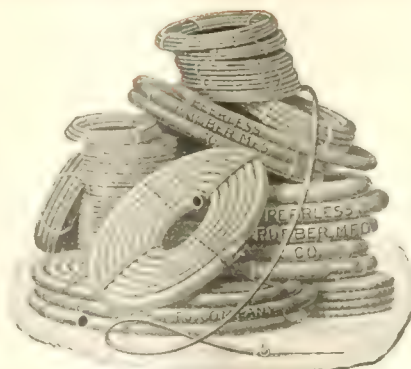
Our Peerless Steel Clad Suction Hose has become a general favorite among Firemen. It has been adopted as the standard by some of the largest City Fire Departments in the United States and foreign countries.

We guarantee this hose in every respect, and can repair it when damaged.

### RUBBER HOSE.

CONDUCTING,  
GARDEN,

Peerless,  
Lakeside,  
Red Lable,  
Crown,  
Knicker,  
Made any diameter.



ENGINE,  
HYDRANT.

Rainbow Ribbon,  
Sterling,  
Reliance,

Made only in  $\frac{1}{2}$  and  
 $\frac{3}{4}$  inch.

### Fortune Seamless Rubber Belt.



Absolutely the finest and most durable  
Rubber Belt yet produced.

Every belt tested before leaving factory.



We have the most modern and extensive belt machinery in the world and guarantee satisfaction in every instance.



Copyrighted and Manufactured Exclusively by

THE PEERLESS RUBBER MANUFACTURING COMPANY,

16 WARREN STREET, NEW YORK.

16-1 Woodward Ave., Detroit, Mich.  
211 Magazine Street, New Orleans, La.

202-210 S. Water St., Chicago, Ill.

64 Second Street, Pittsburg, Pa.

17-23 Beale St., and 18-21 Main St., San Francisco, Cal.

1221-1223 Union Avenue, Kansas City, Mo.

Mention The India Rubber World when you write.





Certain, was likely to be followed by such a vigorous complaint as arose in the house of the Liverpool draper, with the risk involved of a judgment for \$4,000, chemists in a small way or a large way would refuse to handle such goods if not guaranteed by the maker, and the makers would not dare to send out bottles without first testing them thoroughly. And with this new condition of affairs, a similar course might follow in respect to garden hose, fire hose, tire inner tubes, and, ultimately, every class of India-rubber goods designed for holding or conveying liquids of any kind.

One further note to be made—for Mr. Justice Walton's decision may yet become of interest as a precedent—is that his Lordship held the hotwater bottle to be a technical article. That is, something which the ordinary purchaser could not be held to be a judge of, as one might be expected to judge for himself of a market basket or clothespins, and in regard to which dependence upon the vendor was necessary. The sale, therefore, of such an article for a given purpose implied a warranty, even if none was expressed. Let this rule once be applied to rubber goods in general—for few persons can judge them by appearance—and the sale of inferior goods will come to be classed with arson and other like things, the commission of which suggests courts and penalties.

#### THE WORLD'S DEPENDENCE ON RUBBER.

WE doubt whether there was any thought of India-rubber in the mind of Lord Kelvin when, at a dinner in London some time ago, in honor of Mr. George Westinghouse, he paid a high tribute to the American in crediting him with the widespread benefits which had resulted from the development of the railway air brake. Yet without the short pieces of India-rubber hose which link together the air brake apparatus of the several cars in a train, these benefits would not exist. The railway systems of the world represent an investment of capital vast almost beyond comprehension, and upon their successful working depend the lives of so many people and the safety of so much property, as to be at some time or other a matter of concern to almost every civilized being. In improving so many of the conditions involved, the air brake has proved of such great service that Lord Kelvin rightly declared it to have revolutionized the business of transportation by rail. He might have added that it is the few dollars' worth of rubber in the equipment of each train that has lifted railroading out of its primitive stages.

Not less marvelous than the extent of the steam railway systems is the great and multifarious development of the applications of electricity—involving thousands of millions of dollars in the means of transmission of intelligence, light, power, persons, and goods. Think of a single factory making and laying 37,000 miles of submarine cables in three years past; of the power of Niagara Falls being used to operate factories as easily as if it were only a toy mill race; of costly street railway systems in every city; with no end of other important electrical undertakings. But without insulating materials, at some point in every

plant or system, all the electricity would be as uncontrollable as the lightning in the clouds. And here the chief dependence is India-rubber, including the closely related substance, Gutta-percha.

To speak of smaller applications, lately the automobile has compelled attention on every continent—a vehicle which never would have been practicable but for rubber tires; without modern fire fighting apparatus the modern great cities could not exist—and rubber hose alone makes these possible; the world's growth in intelligence is enhanced by means of cheap printing paper, which calls for rubber rolls in its manufacture; certain important chemical results and invaluable surgical operations might still be unknown without the aid of rubber. The list already is too long to record here, while invention continues busy with additions to it.

Rubber is thus a necessity to man in a sense in which there is none more truly so among industrial materials, though the use of some others may exceed it in volume and money value. There is no need, therefore, for misgivings as to the future of the rubber goods industry, or as to the coming demand for the raw material. If the past is any earnest of the future, there is no industrial field which offers more promise to the beginner in life looking for a career. There never was before so great a demand for men who understand rubber and how to utilize it, and every decade finds the field less crowded, relatively. Men who are living to-day can remember when shoes were the chief product of the rubber industry, and when at times means had to be taken to prevent over production. But more rubber inventions are patented now every week than in a year, half a century ago, and doubtless as large a proportion of them proves of value. There have been novelties in rubber developed recently which have yielded more profit in a year than Charles Goodyear netted altogether from his epoch making discovery, and there is no sign that the last invention has been made in this field.

#### THE MAN WITH A RUBBER SECRET.

HE appears almost every week, and is usually clothed in an air of mystery that instantly impresses the beholder with the enormous value of his discovery. In the beginning he is most reticent, but after a little the need of sympathy unlocks his lips, and he lays bare his thoughts, hopes, and aspirations. The first part of his confession is very apt to relate to the secret machinations of the "rubber trust," which had attempted to secure his process for its own upbuilding and with no advance payment of the large moneys that the use of his product would mean to them. This is the time to wax sympathetic. A little damning of the trusts, considerable appreciation of the inventor's astuteness, together with a look of whole souled honesty, never fails to bring forth a sample of the mysterious product. It is usually an evil smelling compound which may or may not have a certain use as an adulterant, but which rests wholly on the rubber added to it for value, and yet to its creator's mind is better than rubber. After having seen it, as a rule, one's spirits fall, and the thought of escape obtrudes itself. A sense of fairness, however, acts as a restraint, while the inventor quizzes for information about compounds, about rubber factories, individually and collectively, regarding purchasing

agents, and in fact extracts all the information that years of experience have accumulated. A final question, how best to obtain a market, how easiest to draw it to the attention of the world, is answered by a timid suggestion regarding the insertion of a card in the accredited organ of the rubber trade, to be paid for at the very reasonable rate appended to the contract. Here appears the first sign of escape. A look of distrust appears in the creator's eyes, which he hides behind an embarrassed laugh, and, thanking you hastily, he seizes his sample and disappears.

ONCE UPON A TIME we published an article explaining why certain rubber manufacturers had not engaged in making tires, but had left to their competitors all the possible profits in this then new branch of the rubber industry. Without repeating here the various reasons referred to, we may note that a distinctly different and novel reason kept the "International Wheel, Tire, and Rubber Manufacturing Co."—of which some account appears on another page—from making any tires. The reason is very simple, when it is once understood. Instead of laying out money for plant, raw material, labor, and selling expenses, the management simply pocketed all the cash supplied by shareholders. In this way all risk of loss in trading was avoided, and every dollar that came in was so much profit for the promoters. This left the shareholders out of consideration, of course, but the shareholders didn't plan or organize the company, or otherwise use their brains in connection with it, and the promoters, who had done all the work, evidently considered themselves entitled to all the profits. Besides, who knows that any profit would have been made if the shareholders' money had been risked in actually running a tire factory?

IF BRAZIL SHOULD SUCCEED in establishing her claim to the Acre district, after having caused the Bolivian Syndicate to relinquish its plans for development there, this alone can neither help Brazil nor give any great impetus to the exploitation of rubber along the Acre. What rubber will be gathered will be the product of the intermittent efforts of many small operators, not working in concert, and contending against disadvantages and lack of facilities which can be overcome only by the investment of large capital for systematic improvements, on plans requiring years for their full development. To-day much Bolivian rubber is carried for long distances on muleback or floated over rapids in rivers, which should be conveyed by railways or through canals, constructed to obviate the obstructions in the extensive system of natural waterways. The history of native enterprise in the rubber regions of Brazil gives no promise that any of these things will ever be done without the aid of outside capital, outside enterprise, and outside direction. All of which means that if the Acre rubber fields, after being conceded to belong to Brazil, are to be opened on a comprehensive scale, Brazil must adopt some such course as Bolivia planned to follow, and place the district at the disposal of a foreign syndicate on terms that will justify the investment of the capital requisite for the work to be done. That is to say, the Brazilians on the Acre will then be under foreign control just as much as if the development syndicate were operating under a charter from Bolivia.

THE PROJECTED ISTHMIAN CANAL is not a matter of immediate concern to any branch of the rubber interest, though ultimately it may have an important bearing upon the production of rubber. The canal route traverses a section of the rubber producing zone which has been well denuded of the native supplies, but which may offer advantages for the forming of planta-

tions after the new means of transportation has made that region more accessible. What is likely to prove more important is the greater accessibility of the Pacific coast by reason of the canal, and the consequent development of the rubber resources which lie nearer to the western than to the eastern coast of South America. The canal will not be built to-morrow, however; with the greatest possible expedition ten years will be required for the work, after the enterprise emerges from its present stage—that of diplomatic negotiation.

BEGINNING with the May issue of THE INDIA RUBBER WORLD, there will appear the first of a series of articles, entitled "A Trip Through the Tierra Caliente," which will be a record of the personal observation of the Editor during a recent trip to the rubber plantations in southern Mexico. The articles will be well illustrated, and will describe typical plantations and the various conditions that surround the pioneer work in the country named.

#### AKRON RUBBER FACTORY BURNED.

THE factory of The India Rubber Co. (Akron, Ohio) and all its contents were completely destroyed by fire on the afternoon of March 26. The plant was in ruins in less than an hour from the discovery of the flames. The company occupied a three-story brick building, the main portion of which was 200×60 feet, and a wing 150×100 feet. It was in the mixing department that the fire started. A boy was pouring gasoline from a cup into a can. His elbow came so close to an electric belt that a current shot through his arm and a spark from the end of his finger ignited the inflammable liquid. He dropped the can and cup and an explosion followed. Almost instantly the fire had communicated to an elevator shaft and virtually from the first was beyond control.

The flames had gained great headway before an alarm could be turned in, and although the fire department made heroic efforts to save that portion of the building in which valuable stock was stored, nothing effectual could be done but preserve adjoining property from destruction. A frame dwelling standing between the ruined factory and the office of the company would certainly have burned but for the changing of the wind to the north, carrying the flames away from this structure, and had the fire communicated to this house the office would have been destroyed. All the employees escaped in safety.

The loss is placed by W. L. Wild, the treasurer and manager, at \$200,000, approximately, as follows: On stock, \$90,000; on machinery, \$60,000; on buildings, \$50,000. The aggregate insurance is nearly \$150,000. The burned buildings, except for additions which had been made, were originally a part of the Empire Mower and Reaper Co. plant and were purchased by The India Rubber Co. soon after their organization. Whether they will be rebuilt is to be determined when President Parker, of the Rubber Goods Manufacturing Co., with which the India Rubber Co. were identified, reaches Akron. The company were very busy, night and day, in their tire departments, and the loss in trade will be heavy. The factory employed 300 people.

The India Rubber Co. was incorporated in November, 1895, as the Akron India Rubber Co., and in 1896 under the present name, with \$100,000 capital. In 1899 it was merged into the Rubber Goods Manufacturing Co. Charles H. Wheeler, at first treasurer of the company, and later president, resigned official connection with the company at the annual meeting in January last. He was during the whole time general manager, and as the result of his capacity and energy, with capable assistance a good business had been built up, especially in vehicle tires.



BEER, AND GETTIA PEREIRA, A COMPLETO PIVOTAL  
 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 843. 844. 845. 846. 847. 848

A TRAVELER'S GUIDE TO QUATERNARY LEPIDOPTERA OF THE  
[PAPER IN PROGRESS]

IN CURRENT PERIODICALS.

La Culture des Arbres à Gutta et la Sélection Chimique. [Based on the work of van Romburgh and de Haas in Java.] = *Journal d'Agriculture Tropical*, Paris. III 19 (January 31, 1908). 1 p. 11-12

OTHER PUBLICATIONS RECEIVED.

**RULES FOR INSTALLING ELECTRIC LIGHT AND POWER APPARATUS.**—Singer, J. E. "No. 1 Electric Code," in *Explanatory Notes*.  
Engineering and Architecture, Pract. Elec. Engrs. Pp. 1-10.

"THE ELECTRICIAN" ELECTRICAL TRADES DIRECTORY AND Handbook for 1903 London: *The Electrician* Printing and Publishing Co. Limited 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100. Price, 12 shillings.

THIS standard publication has now reached its twenty-third year of issue, forming for the period since its establishment an invaluable record of electrical progress, not only in Great Britain but for all countries, with a directory corrected annually to the latest possible date of electrical engineers and manufacturing companies. These volumes form likewise a useful compendium of electrical data fitted for convenient reference.

## THE RIVAL OF "PARÁ" RUBBER IN THE EAST.

THE report on *Hevea Brasiliensis* in the Malay peninsula, by Mr. Stanley Arden, of Selangor, noticed in the last issue of this journal, besides being an interesting contribution to the history of rubber cultivation, is of real value on account of the practical information it contains. The report is of particular interest in that it records the assured success of the introduction of the "Pará rubber" tree into the Far East, thus extending the field available for the production of the world's best grade of rubber. The Amazon valley is broad enough, it is true, to meet every requirement, but there are drawbacks to the development of much of that region which may lead in time to the supplying of any increased demand for Pará rubber from regions more habitable by civilized people.

This possibility early began to appeal to the interest of the British in India, and Sir Clements Markham, C. B., F. R. G. S., has given in THE INDIA RUBBER WORLD\* an account of the first introduction of exotic rubber species into India, under his direction as a member of the government. The first results, however, were not encouraging, and Mr. Gustav Mann, after an official connection with the Indian forestry service of thirty-three years, gave expression in THE INDIA RUBBER WORLD to what became a generally accepted opinion in relation to rubber planting, as follows:

The acclimatization of American rubber trees in Asia has not been a success, and, generally speaking, I am now inclined to think that all rubber plants had better be grown in the countries in which they are indigenous, particularly so since land for cultivation in those countries is available and even abundant.

While the initial planting of *Hevea* in India did prove a complete failure, better results were obtained from the beginnings made in Ceylon and the Malay states; that is, the seedlings rapidly developed into vigorous trees. But, as Mr. Arden says, very little interest was taken in rubber by planters, presumably on account of the high prices then ruling for coffee, which also afforded an earlier return than was possible in the case of rubber. "But with a decline in the price of coffee, planters began to look for other cultivations, and during the season 1896-97 the planting of rubber was taken up seriously. Since then its cultivation has received great attention, and there are at the present time, in the Malay peninsula alone, at least 12,000 acres planted with *Hevea*, representing about 1,500,000 trees, presumably the whole being the progeny of the trees originally introduced by the government of India (in 1876)."

The opinion has prevailed, and quite naturally, that any rubber species would require, for its successful cultivation, the conditions of soil, climate, etc., peculiar to its native habitat. The conditions found on the margins of the Brazilian waterways clearly do not exist in the Malay states, but this fact has not interfered with the satisfactory growth there of *Hevea*. Mr. Arden says:

From reports to hand it will appear that this tree naturally affects swampy places; but here it thrives in any locality—at low elevations, and on almost any kind of soil. Swampy districts or places that are periodically inundated are not essential to success, and fine specimens are to be seen growing in what generally would be supposed to be the most undesirable spots. A good tree, for instance, is growing in the Penang botanic gardens on a dry stony bank, and although probably much smaller than if grown under better conditions, this tree has given an

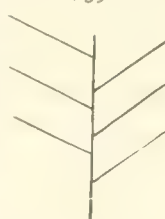
average annual yield of over  $2\frac{1}{2}$  pounds of rubber from the eleventh and fifteenth years of its existence.

Mr. Arden writes further: "There are many instances of plants succeeding much better in the country of their adoption, and the orange may be cited as an example: this plant, although indigenous to eastern Asia, succeeds nowhere so well as it does in southern Europe and California."

It appears, however, that a mistaken view may have been held of the conditions of the growth of *Hevea* in Brazil. In fact, attention lately has been called to a note by Mr. H. A. Wickham, the agent who procured in Brazil the original seed of *Hevea* planted in India.† He reported finding rubber trees in high lands as well as on the river margins. "I cannot but imagine," he says, "that the original locality of the tree was in these uplands." The fact of their generally being found in the lowlands he explained by the likelihood of the seeds being carried in the rainy season down innumerable ravines and gullies into the rivers, to be cast up by tides and windy squalls, and readily taking root on the rich soil of alluvial islands and shores of back waters. He regarded it a natural mistake that travelers who passed up and down the great waterways, without having penetrated into the high lands, to suppose *Hevea* to be confined to the low and frequently flooded shores and islands. But he had found the largest trees inland, and it now appears‡ that all the seeds collected by Mr. Wickham were gained from immense trees on the tablelands.

The growth of *Hevea* in the Malay states is rapid, Mr. Arden having measured an acre, 161 trees  $3\frac{1}{2}$  years old, averaging  $17\frac{1}{2}$  inches in girth, a yard from base, while an acre of 4 year old trees averaged  $22\frac{1}{2}$  inches in girth. Some of the trees were 30 feet high. Seven year old trees reported on by him averaged 26.2 inches in girth and trees ten years old, 39 inches.

In the experimental tapping done by Mr. Arden, the implement found most satisfactory was a sharp pruning knife, which was used to form "herring bone" incisions, as shown in the diagram, under which a small tin cup was placed to receive the latex. Regarding coagulation by smoking, Mr. Arden writes:



Rubber prepared by this method still commands the highest price of all native cured rubbers in the market, but whether the "Pará" rubber so prepared will continue to occupy the premier position when pitted against rubber coagulated on more scientific principles is very doubtful. There will probably be a certain amount of conservatism to break down, as is generally the case when a new product makes its appearance on the market, but we may rest assured that so long as rubber continues to be used for the manifold purposes it is at present, that it will always command a remunerative figure; and when prepared free from all foreign matter, and shipped in as dry a condition as possible, the probabilities are that it will eventually oust the "Pará" rubber of to-day from its present position, for purity and freedom from moisture are what the manufacturer most desires.

The tins in which the latex is gathered are first supplied with a little water, in order to delay coagulation. After straining the collected latex, to remove bits of bark, etc., acetic acid is added—a teaspoonful to a pint of latex—and the whole stirred a few seconds. The mass soon assumes the consistency of thick cream, when it is poured into enamelled plates. After

\* March 1, 1894—pages 106-107.

† February 10, 1899,—page 110.

‡ Indian Agriculture, 1, March 1899.

§ Communication in the London Convention, 1899, p. 110.



three or four hours the rubber, in the form of a thin solid cake, of a pure white color, may be taken out of the latex and subjected to pressure, Mr. Arden believing that for this purpose "something after the style of the old fashioned English wringing machine will probably be found as effective and inexpensive as anything that can be devised." The cakes are then dried for a week or ten days on rattan caned benches, care being taken not to allow mold to accumulate on the rubber.

In his experimental tapping, Mr. Arden did not make fresh incisions each day, but simply reopened the original wounds repeatedly, for six, eight, or a dozen times, in some cases on as many consecutive days, and on other trees on alternate days. In this way there is less injury to the tree than when fresh incisions are made each day, and he believes the yield of latex to be equally large. In fact, he is inclined to think that it is larger, since the tendency of the latex appears to be to flow toward any wound in the bark, and by making only a single wound, the total flow of latex is concentrated at one point.

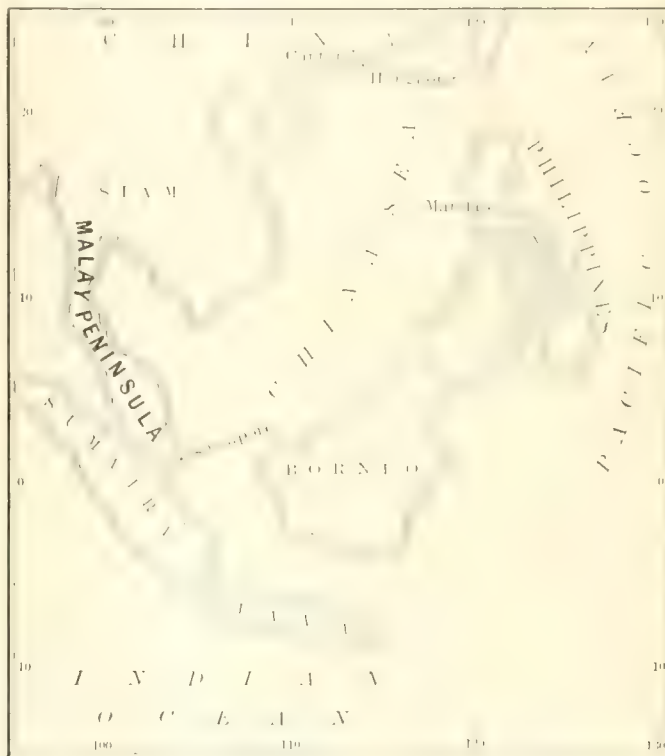
A number of pages of the report are devoted to recording results of tapping trees of various ages, from  $3\frac{1}{2}$  to 11 years, by various methods, at varying intervals, etc., with a view to determining the best practice. Without considering all these details, it will suffice here to state that in a table of estimates with which the report concludes, of the probable cost and possible returns from a plantation of *Hevea*, Mr. Arden states that an acre planted with 108 trees should yield 150 pounds in the ninth year and 200 pounds in the tenth, with a prospect of an increase as the trees become older. Mention is made of 5 pounds 6½ ounces of rubber having been obtained from one tree 10 years old. Based upon his tapping of younger trees, he estimates a yield of 25 pounds in the fifth year as possible, and 52 pounds in the sixth. It should be said that low priced labor is abundant in this region, and that the work of rubber cultivation is being conducted on established plantations, laid out originally for coffee, and that none of the conditions obtain of a newly settled country. All of this contributes to a low cost of product, while the good quality of the rubber made enables the highest current prices to be obtained for it. It does not follow, however, that similar financial results would be possible in all other countries suited to the growth of *Hevea*. These very facts, however, of cheap native labor in accessible districts, under a salubrious climate, are calculated to develop a new source of "Pará rubber" in the old world as preferable to the introduction of labor from the Orient, as has often been suggested in Brazil, into fields so remote and inaccessible as the upper Amazon districts.

#### PROGRESS IN THE MALAY STATES.

THE rate of progress in the Malay states since coming under British control makes the prospects in that region most favorable for planting enterprise, and leads to hopes with regard to the future of rubber cultivation there, which, only a few years ago, could not have been entertained—apart from the fact that the adaptability of the *Hevea* to Malaya has only just been demonstrated. It is not yet thirty years since the first steps were taken in what has led to British protection over certain of the native Malay states. In 1896 four of these states, still retaining their native sultans—Perak, Selangor, Negri Sembilan, and Pahang—became federated, with the advice and protection of a British resident general, since which time marked improvement in many respects has been made. Protection to life and property is now assured; highways, railways, telegraphs, public works, and irrigation systems have been introduced; and population and wealth have increased. The following government returns will indicate to some extent what development is being made—values stated in silver:

	1891	1901	1902
Revenue .....	\$1,287,753	\$1,572,310	\$1,744,597
Expenditure .....	970,740	1,354,500	1,727,158
Imports .....	3,289,266	11,529,942	39,524,003
Exports .....	3,032,469	18,195,551	63,167,177

The population, as shown by the two censuses that have been taken, increased from 428,218 in 1891 to 678,595 in 1901. The Malaysian tin deposits, which seem inexhaustible, are the most important in the world, and supply the greater part of the total demand. There are also gold, iron, and coal deposits. The government exacts a royalty on tin exports, the proceeds of which are devoted to building railways and other public improvements. These railways, thus built without expense to the people, have yielded a profit on operation from the beginning. In many other ways has the changed condition of this region—until recently in a wholly primitive state—rendered it more attractive for exploitation by Europeans, and one result has been the building up of an important planting interest. The number of native tropical products of economic



POSITION OF THE MALAY STATES.

value is nowhere exceeded in an area of the same limits; the alluvial soil is of great richness; and the supply of labor, while much remains to be done in adapting it to European supervision, is ample. It does not seem extravagant, therefore, if the planters who have given careful study to the subject, should entertain hopes that this country may yet prove an important rival to the remote reaches of the upper Amazon as a source of the world's best grade of rubber. In the state of Selangor alone, at the end of 1901, the extent of private plantations of rubber was reported at 7487 acres. The work of planting is known to have since been continued.

The new protectorate above mentioned is administered in connection with the British crown colony of the Straits Settlements, created in 1867, and including the island and port of Singapore—at the extremity of the Malay peninsula. It may be added that the first discovery of rubber outside of America was made in Penang, and the first discovery of Gutta-percha was made on the peninsula, which since has continued to be an important source of the supply.

## THE END OF THE BOLIVIAN SYNDICATE.

THE group of financiers known as the Bolivian Syndicate has been dissolved and the "Acre Concession" is a thing of the past. As for the boundary dispute between Brazil and Bolivia, which this concession was the means of reviving, it is based now upon precisely the same conditions that existed before. The final act of the Bolivian Syndicate was the acceptance of a cash indemnity from the Brazilian government, the amount of which, as yet, is known only to the parties to the transaction. Brazil has not bought anything, but simply has paid the holders of the concession from Bolivia to get out of the Acre territory. The *cessionnaires*, by their acceptance of the money, renounce all rights or claims under the Bolivian grant, leaving the boundary question to be settled without their having to be considered. Brazil can claim no rights under the concession, because by the terms of the grant a company with not less than \$2,500,000 capital was to be formed within a given period for working the concession, and, such company not having been formed, the concession has been terminated by the lapse of time. The failure to organize the company, of course, was owing to the difficulties raised by Brazil.

It is true that Brazil may consider her title to the disputed territory to be stronger by reason of the payment made to the Syndicate, and Bolivia may protest that the acceptance of an indemnity by the *cessionnaires* was in violation of the terms of their grant. But they have the money, the concession has died a natural death, and whenever the boundary dispute comes up for arbitration, the question will be merely one of interpretation of the terms of an old treaty between Brazil and Bolivia. The boundary line agreed upon was to start from a fixed point (never in dispute) and run westwardly to the "source of the Javary"—a region which had not then been explored—and ever since each country has been claiming more territory than the other has been willing to concede. The task for arbitration is to fix the boundary line by locating the source of the river Javary. But however the line may be drawn, it can hardly be so far south as to give to Brazil a very great share of the so-called Acre district.

It has been asserted in behalf of Bolivia that she possesses historic rights to territory far north of the treaty line. But her object in respect to that treaty was twofold: To delimit the boundary and to secure water rights to the seaboard through Brazilian territory, her only natural outlet. In order to obtain an open waterway the Bolivian commissioners, it is claimed, were disposed to be liberal in the matter of land—then not regarded so valuable as now—and met the wishes of Brazilians in respect to fixing the boundary, though Bolivia as yet remains without the coveted free navigation via the Amazon.

Recently, with a view to influencing Bolivia to rescind the

Acre concession, Brazil is understood to have made proposals of exchange of other territory for the Acre, of free navigation, etc. Bolivia rejected all proposals, in the evident belief that a revocation of the grant to the Syndicate, for whatever reason, would weaken her hold upon the Acre district. But now that the Syndicate has allowed the concession to lapse, and has been dissolved, the Brazilian proposals may again come up for consideration, with the result of a new treaty being negotiated. Interest in the development of the Acre is not confined to the contending republics, and outside influences may yet be exerted to secure for that region a free outlet through Brazil. Here the government at Washington undoubtedly would be in a better position to act than hitherto, when any interference from that source might have been regarded as support of a private enterprise.

\* \* \*

THE Bolivian Syndicate was formed to acquire, not only the Acre concession, held by Mr. Frederick W. Whitridge, of New York, but also the Caupolican concession, granted to Sir Martin Conway, of London, and located in territory which is Bolivian beyond dispute. The Caupolican concession, before the Syndicate was dissolved, was transferred to The Bolivian Company, a West Virginia corporation formed in 1901, with an authorized capital of \$1,000,000, by practically the same financial group. The exploitation of the Caupolican district will proceed without reference to any Brazilian claim. The interest of the rubber trade in this undertaking is not so great, however, for while the district contains much rubber, the development of its mineral resources is the chief purpose of the *cessionnaires*. The head offices of The Bolivian Co. are at 59 Wall street, New York.

\* \* \*

THE secretary of state for Amazonas, Brazil, Senhor Porfirio Nogueira, who was recently in New York on business connected with the projected loan for his state, contributed to the New York *Sun* of March 8 a version of the status of the Acre territory, from which the following statements are condensed:

In the territory known by the name of the Acre there is not a single aggregation of houses worthy of the name of a village. Its inhabitants, numbering about 3000, all of whom are Brazilians, are scattered here and there in the *seringaes*, leagues apart from each other. The former Bolivian custom house of Puerto Alonso was nothing more than a hut on the bank of the river Acre. There is not now and there never was on the Acre a single soldier of the Brazilian army, or of the forces of the state of Amazonas. The revolution was accomplished by peasants who were not willing to recognize the dominion, provisional at best, of Bolivia over a territory which they had exploited and always held as a portion of their Brazilian country. For more



MAP OF THE BOLIVIAN CONCESSIONS.

The concession territory held by the Bolivian Syndicate is that bounded by the dotted line. The boundary line should not follow the Rio Beni. The Caupolican concession is located by the solid line.



than thirty years the Acre has been exploited and held by Brazilians who there established their homes as upon the soil of their own country. Even now, says Senhor Nogueira, in the repulse of the regular forces of the Bolivian army by the peasants of the Acre, it is patent that Bolivia has no rooted hold of the territory which it covets and which was exploited by the energy and daring of Brazilians decimated by swamp fevers and other hardships which there assume a terrifying aspect. Senhor Nogueira seeks to support his assertions as to the right of the Brazilians to this territory by quoting from the treaty of March 27, 1867, in which the northern boundary of Bolivia is declared to run westward from the mouth of the river Beni to the Javary, or, "if the sources of the Javary lie to the north of that east and west line," then "until it reaches the principal source of the said Javary."

But here the distinguished Brazilian gets upon troublesome ground and reopens the whole discussion over which the governments of Brazil and Bolivia are at loggerheads. Everybody knows the location of the mouth of the Beni river, so that there is no doubt about the starting point of the Bolivian frontier, but the treaty leaves a wide open question as to the other end of this boundary line, so that the Acre belongs to either Bolivia or Brazil, according as the treaty is interpreted by one power or the other.

\* \* \*

THE *Brazilian Review* (Rio de Janeiro), though having an English editor, may be regarded as fairly reflecting conservative sentiment at the federal capital of Brazil in regard to the Acre question. From recent issues of the *Review* the following statement of its views is condensed:

"Whether done accidentally or out of sheer stupidity or diplomatic inability to state a plain case in a plain manner, boundary treaties are almost always drawn up in a way that will either admit of as many interpretations as there are litigants, or, as is the case with us, of no logical conclusion at all. From the wording of the treaty of 1867 the true boundary between Brazil and Bolivia might be either, or both, or neither, of two lines which the contesting parties are respectively contending for. The only way we can see out of the difficulty, if indeed there be any difficulty at all, is to toss up or refer the matter to arbitration.

"The cession of sovereign rights to a foreign syndicate and the failure of Bolivia to maintain order on our frontier are distinct and separate matters with which the course of the frontier has nothing to do, and can only be prejudiced by attempting to mix up one with the other. It is certain that we have the right to protest against the introduction of a new sovereign entity on our frontier, and equally so to insist on the maintenance of order and on fair and equitable treatment for citizens. That is enough. Let us stick to that and drop the frontier question altogether.

"Outside our cause for complaint with regard to the concession to the American syndicate, we have not the shadow of a grievance against Bolivia, and, if we attempt to assert the unjustifiable pretensions of filibustering adventurers from Amazonas and Pará, and attack Bolivia in their defense, will not only lose the sympathy and respect of other countries, but deserve it.

"No doubt the Acre is virtually Brazilian by right of settlement, and it would be a very good thing if it could be made politically a part of Brazil, by purchase or any other arrangement, also. But as far as absolute rights go we have none whatever, except to see that our people are not ill treated and that our interests are respected; the rest are all on the side of Bolivia, which has shown a remarkable degree of patience."

The *Brazilian Review* habitually speaks of 20,000 of "our kith and kin" in the Acre region, although Senhor Nogueira of Manáos, quoted on the preceding page, mentions 3000 as the total population of the district. It is asserted in New York by persons familiar with that region that the population is made up largely of adventurers and of derelicts—the latter being rubber workers who have been taken up the rivers and deserted by their employers at the end of the season without the means to return to their homes, thus becoming citizens of the Acre without any choice.

The population of Puerto Alonso in February, 1902, was reported at 345, including 202 white men and 5 white women. Of the total 271 were put down as of Bolivian origin (of whom 235 were soldiers) and only 38 Brazilians—and this is the most important settlement in the district.

On January 26 General Pando, president of Bolivia, left La Paz at the head of an armed force on a march for the Acre, and so far as is known he is still marching, although informed while on the second day out that Brazil would insist upon occupying the disputed territory pending arbitration. It is estimated that 126 days will be required for the army to reach the Acre, which will be about June 1. Meanwhile the Acre is probably being garrisoned by troops from Pará and Manáos, who lately started up the rivers. The Bolivian forces on the ground had already surrendered to Plácido de Castro, the insurgent leader.

#### NICOLAS SUAREZ IN THE ACRE WAR.

ONE of the items of "war news" that got abroad during the late unpleasantness in the Acre territory, related to an armed conflict between a body of revolutionists and a force of Bolivian rubber workers collected by Señor Nicolas Suarez on one of his *seringales* and captained by himself. The report was that the Suarez force gained a decisive victory, the effect of which, however, was nullified a few days later by the surrender of Colonel Rojas, in charge of the regular Bolivian forces on the Acre, to the revolutionist leader. Nicolas Suarez is one of the principal capitalists and largest rubber estate owners in the region of the upper Acre and Orton rivers, and is an important figure in Bolivia. When the revolution was declared last summer, citizenship in "the independent Acre republic" was offered to all residents in the district, Brazilians and Bolivians alike, with the exception of Suarez, to whom no quarter was to be given, he being declared a person dangerous to the interests of the new republic. One of the first moves of the revolutionists was to sack and destroy two of his rubber warehouses on the Acre river, but Suarez himself escaped to the Orton river, and it is probable that he raised his forces from his workmen on his rubber estates in the latter region.

THERE is no other place where the use of India-rubber is more essential than in a factory where high explosives are made. An account recently published of the great dynamite factory of the Hancock Chemical Co., at Dollar Bay, Michigan—the center of a mining district, which uses in a year 6,000,000 pounds of dynamite—contains numerous references to rubber. Every operative engaged in the factory work proper, must be rubber shod and wear rubber mittens, to lessen the liability of causing explosions either with their hands or their feet. Materials are conveyed about the works with wheelbarrows with rubber tires. Every precaution, in fact, is taken to prevent any of the explosive substances from coming under pressure of metallic bodies. Thus far no serious casualties have occurred.

## THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

*By Our Regular Correspondent.*

THE failure of this firm of raw rubber merchants has been a principal topic of conversation in the trade. Though naturally a somewhat risky business, no failure of the sort seems to have occurred before, at least not for a long time. A deficiency of £104,573 is a serious thing, and it is not surprising that detailed information as to the business procedure is being awaited with interest. The facts of the case as explained in the papers so far are too lengthy and complicated to be dealt with in any short space, but I may say a word by way of comment on a certain feature. It is stated that the greatest sufferers are certain banking firms who have advanced money. In this respect there is a feeling in commercial circles that our banks by this money lending business, which has increased of late years, are acting somewhat against the interests of sound trade by enabling new firms with practically no capital to enter into competition with old-established firms working on a sounder financial system. Of course it is rarely that the banks get hit; they see too closely to their securities. Nor can it be argued that banks exist primarily for any other purpose than making money for their shareholders. Overdrafts generally are of course not to be condemned, as they are undoubtedly an assistance to trade; it is in the negotiation of doubtful paper that an unsatisfactory feature is introduced, because it gives a false idea of the strength of the firms from the quantity of their turnover. But not to pursue this topic further, it is certainly hard on Messrs. Kramrisch that they were involved in the troubles which have afflicted one or two rubber firms in the north of England in the last year or two.

UNDER the heading of "The danger of inferior hotwater bottles" the public have been made familiar with a case tried at the last Liverpool assizes. Briefly stated, a claim for damages to the person was brought by the purchaser of a rubber hotwater bottle against the chemist who sold it. The bottle burst when full of hot water and scalded the patient. No doubt the jury were largely influenced by the analysis given in by Mr. Heyl-Dia, the expert for the plaintiff, which was as follows: 56.6 per cent. of mineral; 14.6 per cent. of oil substitutes, and 25.8 per cent. of rubber consisting almost entirely of reclaimed crumb rubber. Such a bag, the witness said, was quite unfit to hold hot water, and it would not have been manufactured by an English firm. This bottle, it appears, was made in America and sold by a Liverpool firm for 2 shillings 6 pence. An expert for the defense said he considered the material was all right and quite suitable for hotwater bottles, though cross examination elicited from him the opinion that it was inadvisable to use reclaimed rubber for hotwater bottles. The jury found that no assurance was given that the bottle would carry boiling water; that the bottle was not fit for use as a hotwater bottle when sold; and that this was the cause of the bottle bursting. They could not agree as to the question of negligence but assessed the damages at £140 against the chemist who retailed the bottle at 3 shillings 9 pence. The final judgment for the plaintiff was £40 for expenses, the £100 for compensation not being allowed by the judge. It seems to me that this case opens up a very wide question and one which cannot be adequately discussed in a few lines. It has long been apparent to me that the continual lowering of the quality of the rubber in surgical

goods is a dangerous thing. In the particular case under notice, America and not Great Britain has had to bear the brunt of exposure, but in many classes of surgical goods, British firms of late years have been compelled to lower their quality in order to compete with Continental competition, and it is quite common to hear doctors say that surgical rubber goods are not what they used to be. Of course if doctors were not so eager to buy at a low figure the old quality and prices would have been maintained, but all the same the buyer cannot be expected to discriminate between rubber and substitute where the outward appearance is the same. The Liverpool case makes it clear that to sell a faulty rubber article is a very risky procedure and it will probably lead to retailers requiring guarantees from agents and manufacturers. The latter will naturally decline to give a guarantee for inferior cheap articles and we shall probably find that the result is a return to the use of pure rubber, a consummation devoutly to be wished.

THE shareholders at the annual meeting of the Sanitas Co. of London were recently treated to a long discourse on the merits of the various golf balls now competing for public favor. It came as a surprise to outsiders that the enterprising founder and chairman of the Sanitas Co. had enlarged the scope of his company's operations by an entry into the golf ball manufacture, the connection between the two industries being to the ordinary mind somewhat remote. It has been deemed advisable to form a subsidiary company to work the golf ball business, and this is known as the Improved Golf Balls Co., Limited. Mr. Kingzett stated that in addition to the company's Gutta-percha balls, the "Flypool" and "Improved Remakes," he had patented the "Ortogo" ball, which was in competition with the American cored balls. He claimed that the Ortogo, which is rubbered but not rubber-cored, was superior to these, its exterior being perfectly impenetrable by the clubs; moreover the price was 1 shilling 6 pence, against 2 shillings. Possibly the makers of the American balls could reduce their prices in the face of competition, but this is a matter that need not detain me. Another new ball is the "Ortogo-Singer," the joint product of Mr. Kingzett and Mr. H. M. Singer, of St. Andrews. Finally, there was the "Skor," so constructed that whilst the whole of the case and exterior are made of gutta, there is an intervening cushion or buffer of specially prepared material of an elastic and resilient nature which prevents backing. All these balls, it appears, are patented, and the company will take steps against all infringers and imitators. It would not surprise me if this determination was put to the test before long, seeing the large number of claims made under the several patents connected with the Haskell and Kempshall balls, but I have no wish to advance matters in this direction.

THE retirement of Mr. George E. Heyl-Dia from the St. Helens Cable Co., of Warrington, came to the trade somewhat as a surprise. Originally with Messrs. Glover, at their old works in Salford, he, on leaving their employ, was the moving spirit in the formation of the Warrington works, and has acted as managing director. Mr. Heyl-Dia has shown strains of inventive genius, the insulating compounds "Diatrine" and "Dialine" owing their origin to him, while minor matters, such as gloves for electric wiremen, have engaged his attention. I understand that his present intention is to act as a consultant, though I do not think

KRAMRISCH'S  
FAILURE.INFERIOR  
HOTWATER  
BOTTLES.DISINFECTANTS  
AND GOLF BALLS.ELECTRICAL  
NOTES.



that any particularly brilliant future is before those who go to the number of consultants offering their services to a diffident public.

The Marconi business does not, of course (as some have supposed), threaten the existence of the rubber insulated cable. Nor can it be said that the fibrous cable has ousted the rubber cable to any increased extent of late. The rubber cable in connection with lighting and traction still finds considerable application, especially in workshop lighting, switch board connections, and in fact in all cases where there is much jointing to be done, it being difficult to avoid the intrusion of damp in the case of the cellulose insulation. The use of electricity in collieries is increasing, not only for lighting the works, but also for pumping and for working electric coal cutting machines. Where several collieries belonging to one company are situated at some distance from one another, a good deal of cable is required to distribute the current from a single dynamo house. There can be no doubt that we are on the eve of a considerable increase of the applications of electricity to mining, and those electric firms who are first in the field should obtain some good contracts.

THIS reorganized company reports plenty of work in hand. They are making a special bid for the lawn tennis ball business, which is confined to very few works in Great Britain, the troublous times which the Eccles company have passed through of late having weakened their position as the principal opponents of Messrs. Charles Macintosh & Co. This branch has been subject to much severe cutting in prices that there has been little inducement to go in for it. It is to be hoped that realization in the case of the Hyde company will come up to anticipation.

I HAD an idea that Volenite had died a natural death, from the cold way in which its vaunted pretensions to rank as a rubber substitute had been met by the public. It seems, however, that I was somewhat previous in my conclusions. The chairman of the Fish Oil and Guano Co., at the recent meeting, announced that they were, he believed, nearer a development of a most gigantic character in favor of Volenite than they had ever been. He further remarked on another point that they would know on March 31 what the rubber men of New York had to say with regard to the Rhea company. With regard to Volenite, the optimistic language used is delightfully vague; it is possible to be nearer a success than before but still to be a very great distance from it. One calls to mind in this connection the asymptote curve known to students of conic sections, and which though continually getting nearer to the fixed point does not meet it until infinity.

IN a communication to a contemporary Dr. Weber has recently made a pronouncement on the use of the vacuum process which should be noted, because he has apparently, after longer experience, had reason to change his former opinions. At the meeting of the Manchester section of the Society of Chemical Industry, in March, 1900, he spoke very favorably of the use of the vacuum chamber, because of the decreased liability there was of the oxidation of the rubber. He stated that he had found in a washed sheet of Pará rubber, dried in the ordinary hot-air stove 59 per cent. of oxygen, while part of the same sheet dried in a vacuum pan showed only 1.7 per cent. of oxygen. Now, however, for various technical reasons which I cannot enter into here, but which I fully endorse, he has expressed himself against the vacuum process, the advantages of which have not proved to counterbalance its disadvantages. This will come as cause for congratulation to those firms who from

the beginning were dubious as to the advantage of the extra capital outlay involved.

THIS is the new title of the London Rubber Manufacturing Co., which was established about three years ago by Dr. Schumacher at Croft street, Deptford, London. Dr. Schumacher, I may remark, was formerly assistant chemist at the Harberg-Vienna Rubber Works, at Harburg, from whence he went for a year or two to Messrs. Charles Macintosh & Co., Manchester. His associates in his present enterprise are, to judge by their names, all of his own nationality, and vulcanite goods form a prominent part of the output of the firm.

THIS appendage to the spreading machine has been referred to before in these columns, and to judge by some correspondence I have seen it seems to be attracting interest over the water; the fact that one of our principal factories has fitted ten spreading machines with certainty tends to show that the advantages claimed for it are not the outcome of mental illusion in the case of the patentee.

UNDER this title a paper by Messrs. H. Grimshaw, W. Tong, and R. Barnes was read at the March meeting of the Manchester section of the Society of Chemical Industry. Mr. Grimshaw, who read the paper, gave an illustration of an analysis of a sample of compound rubber as performed in the old days before the present analytical methods had been published, and in which the various organic matters were lumped together, scrupulous care being taken in the determination of small quantities of inorganic matters of no importance and only present as impurities in the filling materials. The rest of the paper consisted of a statement of the methods of analysis already worked out by Henriques, Weber, and others, the solvents recommended being acetone and nitrobenzene. He gave several analyses of reclaimed rubber made by his procedure stating incidentally that as a rule the American products contained more mineral matter than did the English. In the determination of bituminous matter he said that errors might creep in owing to the tendency of vulcanization or overheating to produce bituminous matters from the rubber itself. In the discussion Mr. Terry rather criticized the paper on the score of want of novelty. He held no brief, he said, for Dr. Weber, but still he thought that his publications on rubber analysis should have had more pointed reference by the authors than had been the case that evening.

I AM informed with regard to the naphtha recovering machine recently referred to in these notes, as the joint patent of C. O. Weber and Messrs. Isidor Frankenburg, Limited, that the patent is now the sole property of Messrs. Frankenburg.

THE United Rubber Co. is the name of a new concern in which Mr. Thomas Rowley is interested. The works are at Clayton, Manchester, and it is the intention to manufacture certain classes of mechanicals and solid cab tires. Mr. Higham, late works manager at the St. Helen's Cable Co., is connected with the venture.

THE Fiji Islands have lately come to be something more than a dot placed at random on the map of the Pacific ocean. They are reached by a link in the British-Pacific cable; statistics of imports and exports are kept—aggregating about \$4,500,000 last year; and regulations exist there by which foreign trade marks and patents may be registered. In one year recently the imports of India-rubber goods were valued at £305, and presumably the amount will be shown by more recent reports to have increased.

THE INDIA-RUBBER  
MANUFACTURING  
CO., LIMITED

COULTER'S  
REVOLVING  
SPREADING  
MACHINE  
GAGE.

ANALYSIS OF  
INDIA-RUBBER.

NAPHTHA  
RECOVERY.

NEW WORKS.

HYDE RUBBER CO.,  
LIMITED.

VOLENITE.

DRYING OF  
WASHED RUBBER.

## RUBBER PLANTING AND EXPLOITATION.

## RESULTS OF RUBBER TAPPING AT SAN MIGUEL.

**A**N exact record was kept of the results of some recent tapping of rubber trees (*Castilloa elastica*) on the "San Miguel" plantation, owned by the Tabasco Plantation Co. (Minneapolis, Minnesota), located on the Macuspana river, in the state of Tabasco, Mexico, which are summarized below. There are on this estate about 400 large rubber trees, which were planted in the shade of cacao and coffee. These trees were not only grown in cacao and coffee, but under the shade of "mother" trees (not rubber) planted for shading the coffee while the rubber was getting a start. The secretary of the company, Mr. James C. Fifield, in communicating these results to THE INDIA RUBBER WORLD, writes: "A fact well known to the rubber planters is that trees planted in the shade require a much longer time to attain their maturity and full size than those planted in the sun. In fact, the most casual observer could not fail to notice the astonishing difference in size between the trees grown in the sun and those in the shade. It is believed that the size of a rubber tree has more to do with the amount of rubber which it will produce than its age." In the table which follows is given the age of the trees, except that the age of those placed at 10 and 12 years is not accurately known; the circumference of the trees three feet from the ground; the weight in ounces of the latex secured; and the average yield per tree of dry rubber (including a small amount of scrap pulled from the trunk of the tree after tapping). The details follow:

Age	No. of Trees	Average Girth	Ounces Latex	Ounces Rubber
7 years.....	257	33.80	11.80	9.39
8 years.....	14	37.75	20.70	14.25
9 years.....	7	40.14	21.25	18
10 years.....	4	43.25	26.75	17.50
12 years.....	21	50.50	49.50	28.90

Based upon the above figures, the rubber product from an acre of land containing 200 trees seven years old would be 112 pounds; at eight years old, 174 pounds; at nine years old, 240 pounds; and at twelve years old, 314 pounds.

The following account of the rubber tapping at San Miguel was prepared by Mr. Boyer, the plantation manager:

"We were very fortunate in securing for the plantation a native rubber tapper who has been raised in the rubber district, and for many years has successfully tapped both wild and cultivated rubber trees in the states of Chiapas and Tabasco. With this experience he was able to obtain the best results without injury to the trees.

"The first step in tapping a rubber tree is to clean a small place around the tree, a small gash then being made in the bark with the point of a *machete* and a leaf inserted therein, which serves as a spout to run the milk into pails. This leaf is placed about fifteen inches from the ground. From this point the cuts are made upwards at an angle of 45 degrees and extending in each direction a sufficient distance to include three-fourths of the circumference of the tree. Directly above this, a distance of one meter, another cut is made exactly like the first, the milk flowing down the side of the tree into the first cut and on into the pail. These cuts are repeated on the entire body of the tree, or until the branches are encountered. You will at once see that all the milk has not been secured, but a sufficient amount left to maintain the tree in good condition for another

year. The next tapping, which will be made in a year from now, will be made on the same side of the tree, three inches above the cut made this year, and the following year three inches above that, so that it will be possible to make thirteen tapplings on one side, or twenty-six on both sides, or in other words, a tree can be tapped twenty-six years without retapping the old cuts. The instrument used by the natives is a *machete*, or long knife. The bark of a ten year old rubber tree is about three-fourths of an inch thick.

"The rubber trees on San Miguel are of the variety known throughout Mexico and Central America as *Castilloa elastica*. This variety is divided into two classes, the first of which is known as the yellow rubber tree, or 'hule amarillo,' this being the male. The milk from these trees flows very freely, having a rich yellowish color. It flows so freely that there is scarcely any left in the cuts after tapping. The other variety is known as the white rubber tree or 'hule blanco,' this being the female. The cuts made in these trees are not made at a 45 degree angle, but horizontally, a sufficient distance to include three-fourths of the circumference of the tree. The milk from this tree oozes into and fills the cuts, flowing down the tree several inches. The milk is very thick, requiring several days for it to dry so that it can be gathered. Of the two varieties the yellow is regarded as superior.

"The milk, gathered in pails, is taken to the rubber drying house, where it may be converted into rubber through either of the following processes, both of which we have used: First, it is spread on a cement floor to a depth of three-fourths of an inch, this floor being so situated that the milk is constantly in contact with the sun's rays, thus drying very rapidly. After it is dry the sheets are rolled up into convenient sizes for shipment. The second process is through coagulation with a native vine known as 'bejuco de nécta.' During the coagulation the rubber is left porous, and as it contains more or less water it is necessary to remove the same by using a press. It requires more time to prepare rubber by the first process. The average shrinkage in converting milk into solid rubber is 2.3, or in other words, 2.3 pounds of rubber milk will produce one pound of rubber. I have personally attended to the tapping and the figures herein given are absolutely correct."

## LA ZACUALPA RUBBER PLANTATION CO.

[Plantation near Tapachula, state of Chiapas, Mexico. Offices, San Francisco, California.]

A NEAT brochure published by this company reproduces letters from twenty-five of their shareholders, expressing satisfaction with the management of the company. The writers of the letters are stated to hold 503 shares, representing an investment of \$62,875.—The price of La Zacualpa shares was advanced on March 1 from \$125 to \$150.

## YAVILO PLANTATION CO.

[Plantation near San Juan Evangelista, state of Oaxaca, Mexico. Offices, Joseph, Missouri.]

INCORPORATED in October, 1902, under the laws of South Dakota, to cultivate rubber in Mexico; capital, \$250,000. Property, 1000 acres on the Colorado river, adjoining the Pan-American Planters' Co. (Chicago) tract and the private plantation of Maxwell Riddle; near the Vera Cruz and Pacific and National Tehuantepec railways. Stock is offered in \$250 shares—one for each acre to be developed—payable in installments. It is planned at present to plant rubber alone, and dividends from other sources are not promised. W. True Davis, president;



*Tygart*, M. D., vice president; *E. P. Grant*, secretary; *J. A. Grant*, treasurer; *A. C. Owens*, general manager—all reputations of St. Joseph, Missouri. James Brydon is plantation manager, in addition to holding the same position with the Pan-American Planters' Co.

#### THE SAN MIGUEL PLANTATION CO.

Plantation "El San Miguel," state of Vera Cruz, Mexico. Office—Chicago, Illinois.

INCORPORATED under Illinois laws, to cultivate rubber, sugar cane, and tropical fruits; capital stock, \$200,000; have purchased 1,000 acres, 23 miles from Coatzacoalcas, on the navigable Chacalapa river, and near the National Tehuantepec railroad; have "under cultivation" and "in the nursery ready to transplant" over 200,000 rubber trees, but number actually planted is not given; have sugar cane and pineapples growing. Offer development bonds at \$300 each, in monthly installments for five years, at the end of which time the promised dividends will have amounted to \$382—all before the rubber trees are productive. With the rubber yielding, annual dividends of from 100 to 125 per cent. are promised. The Equitable Trust Co. (Chicago) trustee; *Richard Walsh*, president; *Talton Embry*, vice president; *H. E. Rose*, secretary and treasurer. W. A. Kemp is plantation manager.

#### THE MERIDEN RUBBER PLANTING CORPORATION.

Plantation "El Meriden," Tula, state of Vera Cruz, Mexico. Office—Meriden, Connecticut.

J. HERBERT FOSTER, manager, reports taking up the option held on the second half of the adjoining Buffum tract, the first half of which was purchased a year ago. The money was provided by an additional issue of stock, taken by the original shareholders. The trees under Mr. Foster's care are five years old.

#### "CEARA RUBBER" IN EAST AFRICA.

THE last INDIA RUBBER WORLD contained a reference to the interest in rubber of the Deutsch-Ostafrikanische Plantagengesellschaft, on their plantation at Lewa, in German East Africa. A letter from Berlin offices of that company informs us that the species planted is *Manihot Glaziovii*—the rubber of Ceará—of which they now have 250,000 trees standing. Recently 4000 five year old trees were tapped, yielding about  $\frac{1}{4}$  pound of latex each, of which they estimated that 30 per cent. in weight was lost in drying. This would give a yield of 700 pounds of dry rubber for the 4000 trees, which, considering the age of the trees, and the good quality of the product, is considered very encouraging.

#### BOLIVIAN RUBBER CO. OF BALTIMORE (MARYLAND).

THIS company was incorporated February 3, 1903, under the laws of Delaware, to acquire and develop certain rubber concessions in Bolivia; capital, \$2,500,000. The directors for the first year are: Israel M. Parr, Jr. (president); Thomas F. McGlone (vice president); G. Howell Parr (secretary and treasurer); Henry A. Parr, George R. Webb, Nicholas P. Bond, and Andrew Gray. The company succeeds The Andes Rubber Co. [see THE INDIA RUBBER WORLD, May 1, 1902—page 255], formed nearly two years ago by the same Baltimore business interests, to obtain options on certain rubber properties pending a full investigation of the same. These properties have now been acquired, and the new company is organized to continue, on a larger scale, the work of development begun by the original concessionaires.

The property of the Bolivian Rubber Co. is located in north-western Bolivia, in the province of Caupolicán, department of La Paz, about 55 miles from the town of Apolo (15° south latitude), and 580 miles from the port of Mollendo, of which 349 miles are covered by rail. Apolo is located west of the river

Beni. The tract embraces 40 square leagues (Bolivian), equal roughly to 100 square miles. It is bounded on three sides by rivers, the Beni forming the southern boundary. Work was begun about three years ago, by previous owners of the land, at four different points, about 2000 *estradas* (rubber paths) being opened; small farms developed, and Indians induced to settle on them; and other arrangements made, looking to the organization of an established working force for gathering rubber. In the 1901 season 82,000 pounds of rubber were collected, and sold at Mollendo. In 1902 rubber gathering was resumed, and 110,000 pounds were shipped to New York. The work of gathering rubber has since been continued, and several lots from this estate have arrived lately at New York.

The head offices of the company are at No. 44 South street, Baltimore, Maryland, and they are represented in New York by H. D. Selleck, No. 68 Broad street. J. A. Pharoah, the company's manager in Bolivia, was in the United States recently starting from New York on March 31 to return to his work. The capital employed in this enterprise thus far has been supplied mainly by Henry A. Parr, of Baltimore, but it is now proposed to admit other investors.

#### RUBBER AND CHICLE IN YUCATAN.

THE Mexican department of public works has granted a concession to Rodolfo Reyes, authorizing him to cut dyewoods, mahogany, and other timbers, and gather India-rubber and Chicle from the forests comprised in 161,224 hectares [=398,834½ acres] of public lands in the district of Peto, state of Yucatan. The duration of the contract is ten years, during which time the *concessionaire* binds himself to exploit the whole concession, the extent of each year's work being defined. He is to pay for the privilege \$18, Mexican, for each ton of Chicle, \$24 for each ton of India-rubber, and stipulated prices per timber tree of the various species.

#### TO EXPLOIT FOREST RUBBER IN MEXICO.

THE Mexican Mutual Mahogany and Rubber Co., incorporated under Ohio laws with \$2,500,000 capital, do not propose to do any planting. They have secured a forest tract in the department of Chilon, state of Chiapas, reported to contain 879,702½ acres, with a view to cutting mahogany, dyewoods and cedar, and gathering rubber. The company estimate 4,000,000 wild rubber trees on their land, worth \$10 each, and from which they promise an annual income (presumably net) of \$100,000, besides the profits from lumber. It is not stated that these figures have been supplied by a graduate from any reputable guessing school, and they should be received with caution. It would, indeed, be surprising to find 4,000,000 wild rubber trees in all Mexico. Ira Z. Mason is president, L. S. Page, secretary, George A. De Witt, treasurer—all of Toledo, Ohio—and A. B. Adams, of New York, vice president.

#### MEXICAN PLANTING NOTES.

LA Zacualpa Rubber Plantation Co. (San Francisco) have advanced the price of their shares from \$125 to \$150. During the past season they have done much improvement work on their estate in Chiapas, and are prepared to do an important amount of new planting this year.

=Harry L. Trott has become connected with the Mexican Plantation Co. of Wisconsin, on their Plantation "La Crosse," in Oaxaca. After a four years' course in the agricultural department of the University of Wisconsin, Mr. Trott has had three years experience in tropical planting.

=The Pan-American Planters' Co. (Chicago) are clearing 250 acres this spring on their "San Isabel" plantation, in Oaxaca. The first issue of 1000 plantation certificates—two per acre—has nearly all been sold.

## INDIA-RUBBER INTERESTS IN EUROPE.

## HIGHER PRICES FOR RUBBER GOODS IN GERMANY.

At the suggestion of the Centralvereins Deutscher Kautschukwaaren-Fabriken a meeting was held on February 28 at the Hotel Kaiserhof in Berlin to consider the question of advancing the prices of India-rubber goods. That the effect of any such meeting might be general, some leading manufacturers who are not members of the union were invited and attended, twenty three factories in all being represented. The sentiment of the meeting was that, in view of the high prices of crude rubber, textile goods, and the other materials entering into their industry, an advance of 10 per cent. on the prices of rubber goods was desirable, but final action was deferred to a further meeting announced for March 24, which, it was expected, would be more largely attended. The object and purpose of these meetings is commended by the *Gummi-Zeitung* (Dresden), which remarks, editorially:

"The situation in the raw rubber market is developing uninterruptedly on the lines predicted by us in November of last year. Prices have permanently maintained their high level—minor reductions taking place only in extreme cases, when the demand declines temporarily. Immediately upon a return of liberal buying, however, prices again advance. The good middle sorts, however, which are always in good demand, are advancing slowly, but steadily. Prospects of a material change of this condition do not exist; on the contrary, a further advance is to be feared. Certainly a lasting decline in raw material is not in sight. The tension thus created in the rubber industry has reached the breaking point, and manufacturers in every branch of the industry have begun to realize the urgent necessity for advancing the prices of their products. A few of them already have taken the initiative in this direction and informed their patrons of a necessary advance in prices."

\* \* \*

THE London *India-Rubber Journal* (March 2) denies the reports of concerted price advances by English rubber goods manufacturers, lately current in Germany, except on rubber thread.

## THE NAME "REITHOFFER" IN AUSTRIA.

WHEN, in June, 1872, the business was organized which since has been known as the Vereinigte Gummiwaaren-Fabriken, Harburg-Wien, the factory was acquired of the old firm J. N. Reithoffer, at Wimpassing (Austria), with depôts at Vienna, and all the patents, *clientele*, and rights of that firm. As successors to this business, the Harburg firm have since added to their name "vormals J. N. Reithoffer." In 1863 the firm Josef Reithoffer's Söhne was registered in Vienna, selecting a location in the same Mariahilferstrasse where J. N. Reithoffer's store had existed for thirty years, and engaged in the same branch of trade. During the "eighties" two former employés of the Harburg-Vienna firm established themselves next door—Herrengasse, 4—to the retail store of that firm, their sign indicating: "Depot of rubber goods from the factory of Josef Reithoffer's Söhne." All of which led the Harburg-Vienna company to give special emphasis to that part of their firm name, "vormals J. N. Reithoffer," on their signs in Vienna and their price lists intended for the trade in that city. The firm Josef Reithoffer's Söhne feeling themselves injured by this, brought suit to restrain the Harburg-Vienna company from such prominent use of the name "Reithoffer," the result of which has been a decision in favor of the de-

fendants, who have established their claim to be sole successors of J. N. Reithoffer and their right to use his name as prominently as they may see fit. The Harburg-Vienna company, therefore, have issued a circular reiterating their direct and sole succession of Johann Nepomuk Reithoffer, who was the founder of the India-rubber industry in Austria, and that no other firm by the name Reithoffer has any connection with the same.

## IMPRISONED FOR STEALING RUBBER.

SEVERAL persons have been sentenced to imprisonment in connection with the thefts of crude rubber which occurred throughout the years 1899-1902, from the Kölnische Gummi-fäden-Fabrik (Cologne Deutz, Germany). So extensive were these thefts that a single rubber factory had rubber delivered to it, which afterward was found to have been stolen, to the value of \$16,452. At the hearing in the criminal court, the director of the rubber thread factory which had sustained the loss, Herr Gustav Walter, stated that large quantities of rubber were used—5000 to 10,000 kilograms [=11,023 to 22,046 pounds] every two weeks. Suspicion of theft was first caused by a great increase in the shrinkage of rubber in washing. Members of the family of the superintendent of the rubber thread factory were implicated, though no proof was offered that the superintendent himself had knowledge of the thefts. Outsiders were engaged as go-betweens, and the stolen rubber was offered to factories as having been received from Holland. Three persons were sentenced for stealing for an aggregate of 3 years and 8 months, and four persons for concealing stolen goods for an aggregate of 5 years and 4 months.

## LARGE WORK IN CABLE CONSTRUCTION.

AT the annual meeting of the Telegraph Construction and Maintenance Co., Limited (London, March 3), it was stated that during three years submarine cables made by the company had been laid around the world, involving 29,000 miles of cable. They had carried out minor contracts, which brought up the total output to 37,000 miles laid during the three years. This was equal to an average of 40 miles per day, and at times of pressure the speed of making exceeded 60 miles per day. The profit for last year, after deducting interest charges, had been £99,000. The dividends had been the same as last year—4½ per cent. on the preference and 20 per cent. on the ordinary shares. The amount carried forward is £101,380. Important extensions of the company's facilities are contemplated. The pension fund, for the benefit of employés, now reaches £63,890.

## THE DUNLOP COMPANY AND MOTOR TIRES.

THE Dunlop Pneumatic Tyre Co., Limited, have issued a circular explaining their position with regard to motor tires, in answer to an impression which has prevailed in some quarters that the company were antagonistic to the automobile movement. Before the introduction of automobiles the Dunlop company were bound by certain agreements relating to the Bartlett "Clincher" tire patent, purchased from the North British Rubber Co., Limited, not to issue more than one license for the manufacture of this tire in addition to the one issued to the North British company themselves. In time one such license was granted to the Clipper Pneumatic Tyre Co., Limited, since when the Dunlop company have had no power to license the importation or use in Great Britain of foreign tires infringing the Bartlett patent, in consequence of which automobilists were



deprived of the use of foreign cars fitted with foreign tires while the British automobile industry was still in the embryonic stage. The Dunlop company, therefore, gave permission to its licensees, the Clipper company, to have their motor tires manufactured by them by the best known foreign makers, whose tires were thus placed at the disposal of the British public. Dissatisfaction continuing to exist, the Dunlop company states that it approached the North British company to get them to relax the terms of the agreement in view of the situation which had not been contemplated when the agreement was entered into. The North British company, however, not only refused this, but further stated that had they known that it would be competent for any of the Dunlop licensees to have their tires made abroad and imported into Great Britain, they would never have consented thereto, and further the North British company sought to have the Clipper company restrained from importing and selling foreign made tires. The company feels, says the circular, "that in common justice the above facts should be made known so that it may no longer suffer the odium attaching to a situation for which it is not responsible and which it has taken every possible step to modify."

#### A SECOND RUBBER JOURNAL IN FRENCH.

A SECOND journal published in French in the India-rubber interest has come into existence—the *Industrie et Commerce du Caoutchouc et de la Gutta-percha*—an illustrated monthly published by E. Dutemple and edited by Charles Dufour, at Avenue de la Reine, 11, Brussels, and Rue Lafayette, 208, Paris. The *Gummi-Zeitung* (Dresden) remarks that in recognition of the need for a trade journal in the Caoutchouc interest for circulation in French speaking countries, it considered the idea as long ago as nine years of publishing an independent French edition in Paris. It adds: "Whether the necessity is so great, however, as to enable two publications simultaneously [another new French rubber journal was mentioned in THE INDIA RUBBER WORLD last month] to find food for a healthy development from the start is doubtful, in our opinion." It wishes success to both the new comers, however.

#### KEMPSHALL GOLF BALLS IN GREAT BRITAIN.

THE sole manufacture and sale of the Kempshall golf balls in Great Britain has been taken over by The St. Mungo Manufacturing Co., of Broomloan road, Govan, Glasgow, with London offices at 37, Walbrook, E. C. The St. Mungo company have been making Gutta-percha balls for some years, but now announce in a circular to the trade that "the general use of rubber cored balls is an assured fact." The Haskell Golf Ball Co. (Akron, Ohio) are prosecuting suits for infringement against the Kempshall interest in Great Britain as well as in the United States.

#### GREAT BRITAIN.

THE Liverpool Rubber Co., Limited, have paid on last year's business dividends of 5 per cent. on their preference shares and 2½ per cent. on the ordinary.

=Mr. Archer Phillip Crouch has been appointed secretary of the India Rubber, Gutta Percha, and Telegraph Works Co., Limited (London) to succeed the late Mr. T. J. Lloyd, who had filled the office for many years.

=The India Rubber Manufacturing Co., Limited, was registered on February 27, with £20,000 capital, to carry on the business conducted hitherto as the London Rubber Manufacturing Co., at 88, Croft street, Deptford, London.

=W. T. Henley's Telegraph Works Co., Limited, show a net profit for 1902 of £61,362 9s. 8d. Dividends, at the rate of 4½ per cent. on preference and 20 per cent. on ordinary shares, amounted to £54,375. The amount carried forward is £25,967

13s. 11d. The year's business was mainly in India-rubber goods, the company not having had much to do in connection with submarine cable work. Owing to the need of increased plant, the company probably will issue this year the shares which have been held in reserve—£25,000 preferred and £25,000 ordinary.

=A company has been formed under the name of The de Nevers Rubber Tyre Co., for the business carried on for twenty years by Oscar Count de Nevers as the New York Wheel and Rubber Co., 377, Kennington road, London, E. C. Their tire factory is at Bendon Valley, Earlsfield, London, S. W.

#### GERMANY.

THE Deutsch-Atlantische Telegraphen-Gesellschaft have finished laying their second line of cable to New York as far as the Azores—1851 miles. The remainder of the cable, now being manufactured at Nordenham, will not be completed for several months.

=Loewitz & Rohlf's, of the Gutta-percha and Balata works at Altona-Ottensen, announce in a circular a reduction in their discounts to 10 per cent., which will only in part compensate for the increase in the cost of raw materials since their former discounts were fixed.

=The firm of Feist Strauss (Frankfort o/Main), dealers in waste rubber and supplies for the caoutchouc, linoleum, and celluloid industries, have established a branch in Berlin—Lange-strasse, 97—where Herr S. Rosenbaum will superintend the purchases and sales for that city and its vicinity.

=The dividend of the Vereinigte Berlin-Frankfurter Gummiwaaren-Fabriken (Berlin) for the business year just closed is 9 per cent., against a dividend of 7 per cent. declared in the year previous.

=The French firm of Michelin & Co. have removed their German branch from Mannheim to Frankfort o/Main—Kronprinzenstrasse, 37. The business of this house is confined largely to the sale of the Michelin pneumatic tires.

=Actiengesellschaft für Fabrikation Technischer Gummiwaaren, C. Schwanitz & Co. (Berlin), has declared a dividend of 8 per cent. for 1902, against 9 per cent. in 1901, and 8 per cent. previously.

#### FRANCE.

THE Société Française des Pneumatiques Dunlop, Limited, have established a factory at Argenteuil, near Paris, and are now making tires. The dividends from last year's trading were 6 per cent. on the preference and 10 per cent. on the ordinary shares.

#### BELGIUM.

THE new *Moniteur du Caoutchouc* (Brussels) states that the factory of the Centrale Belge, at Alost, a branch of La Centrale Africaine Société Anonyme, has established an equipment for the manufacture of rubber shoes.

#### MOSELEY-PREECE.

MR. DAVID MOSELEY, chairman of David Moseley & Sons, Limited, India-rubber manufacturers of Manchester, was married on February 11 to Agnes Gwen, eldest daughter of Sir William Henry Preece, K. C. B., F. R. S., consulting engineer to the British postoffice and consulting engineer to the British and Colonial governments. The remarkable gifts of Sir William Preece as a lecturer on science have brought him prominently before the general public; he is the patentee of no less than nine inventions of value in connection with telegraphy, and the author of a large number of books and papers in the field of electrical science. Mr. Oswald Moseley, second brother of the bridegroom, officiated as best man. The wedding tour was made in Italy.



THE ONLY RUBBER BOOK.

THERE have been, first and last, a great many books printed about India-rubber, but as far as we know only one on India-rubber, and that was Charles Goodyear's work on "Gum Elastic," one copy of which was printed upon leaves of a sort of parchment made of India-rubber mixed with fiber, the covers being plates of hard rubber, beautifully carved. In writing of Goodyear's book in the *North American Review* (July, 1865) James Parton said:

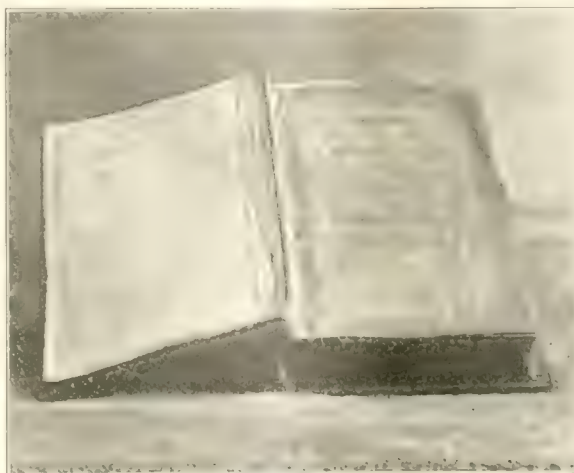
The work presents at least something unique in the art of book making. It is self illustrating; inasmuch as, treating of India rubber, it is made of India rubber. An unobservant reader, however, would not suspect the fact before reading the preface, for the India-rubber covers resemble highly polished ebony, and the leaves have the appearance of ancient paper worn soft, thin, and dingy by numerous perusals. The volume contains 620 pages; but it is not as thick as copies of the same work printed on paper, though it is a little heavier. It is evident that the substance of which this book is composed cannot be India-rubber in its natural state. Those leaves, thinner than paper, can be stretched only by a strong pull, and resume their shape perfectly when they are let go. - - - The book itself tells us that it can be subjected, without injury, to tests more severe than summer's sun and winter's cold. It can be soaked six months in a pail of water, and still be as good a book as ever. It can be boiled; it can be baked in an oven hot enough to cook a turkey; it can be soaked in brine, lye, camphene, turpentine, or oil; it can be dipped into oil of vitriol, and still no harm done. To crown its merits, no rat, mouse, worm, or moth has ever shown the slightest inclination to make acquaintance with it.

It is quite possible that the distinguished reviewer here quoted did not expect to be taken seriously, but as a matter of fact, and quite unfortunately, this priceless volume has been injured both by fire and flood. Its repository was a safe in the New York office of a prominent member of the Goodyear family. This safe passed through a serious conflagration, and, before it was rescued, lay for some time in a cellar, flooded with water. The result was that many of the leaves were fused together by the heat, and stained by the infiltration of water, and that the cover, instead of being a jet black, is now a chocolate brown. Whether the book can be completely restored is a question, and before it is attempted, the advice of experts in the trade will be taken that the remedies applied may in no way deface it. The accompanying illustrations show the volume as it now appears.

## GERMAN ELECTRICAL CONSOLIDATION.

THE consolidation of electrical interests in Germany, referred to in the last *INDIA RUBBER WORLD*, still continues. At meetings held on February 17 of the shareholders of the respective companies, a plan was ratified for the merger of two important enterprises at Frankfort o/Main. The Gesellschaft für Elektrische-Unternehmungen [Company for electrical undertakings], operating various central stations, tramways, etc., is thus absorbed by the Electricitäts-Actiengesellschaft vormals W. Lahmeyer & Co., an electrical manufacturing concern. Two new shares of the latter company's stock are issued for three shares of the company taken over, which ceases to exist as a separate concern. This company, by the way, though able to earn a dividend of 7 per cent. in 1898-99, showed a deficit last year of over 720,000 marks, but the undertakings under its control are said to give promise of good development. By the way, the failure of so many new public utilities in Germany to yield profits as soon as was expected is responsible in large part for the recent commercial and industrial depression there.

The manufacturing companies, however, continue to promote new undertakings, at home and abroad, as a means to securing new orders for their products. For example, the two great electrical combinations mentioned in the last *INDIA RUBBER WORLD* are now credited with negotiations for raising a capital of 10,000,000 marks for the conversion of the horse tramways at Valparaiso (Chile) to electric traction. As for the merger at Frankfort o/M., mentioned above, it was financed by the Bank für Handel und Industrie in Darmstadt—with 132,000,000 marks capital—one of the group of banks in close relation with the Allgemeine Electricitäts-Gesellschaft, so that a connection between the Lahmeyer concern and that company may be inferred. The consolidation above referred to was thoroughly considered early in 1902, when it was all but consummated, the only obstacle being the heavy bond issue of the company to be absorbed—10,000,000 marks, due in 1939—which now has been satisfactorily provided for.



THE BOOK OPENED AT THE TITLE PAGE.



THE BOOK OPENED AT THE MIDDLE.



## INDIA-RUBBER GOODS IN COMMERCE.

## EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values for January, 1903, and the first seven months of four fiscal years, beginning July 1:

Month.	Rubber Packing and Hose.	Rubber Shoes.	Other Rubber.	TOTAL.
January, 1903.....	\$ 55,034	\$ 81,502	\$ 178,573	\$ 315,109
July-December.....	412,122	793,028	1,053,612	2,258,762
Total.....	\$467,156	\$874,530	\$1,232,185	\$2,573,871
Total, 1901-02....	355,509	833,754	913,833	2,103,096
Total, 1900-01....	304,762	587,687	963,740	1,856,189
Total, 1899-00....	319,296	283,861	748,442	1,351,599

## RUBBER GOODS EXPORTS FROM NEW YORK.

VALUES during four weeks ended February 24, 1903:

Argentina... \$ 762	Denmark... \$ 70	Norway... \$ 566
Australia... 6,078	Dutch Guiana 16	Nova Scotia... 37
Aust. Hungary 700	Dutch W. Ind. 18	Penn... 375
Belgium... 4,394	Ecuador... 576	Philippines... 2,284
Brazil... 4,751	France... 9,714	San Domingo 137
Brit. Africa... 10,006	Germany... 14,705	Spain... 646
Brit. E. Ind. 1,383	Great Britain 51,140	Sweden... 726
Brit. Guiana 287	Haiti... 36	Turkey... 156
Brit. W. Ind. 719	Italy... 1,755	Turkey (Asia) 57
Central Amer 759	Japan... 1,554	Uruguay... 86
Chile... 1,232	Mexico... 6,025	Venezuela... 114
China... 40	Netherlands 13,001	
Colombia... 401	Newfoundld. 519	
Cuba... 6,334	New Zealand 4,127	
		Total... \$144,992

## COMPARATIVE STATEMENT BY COUNTRIES.

VALUES of imports and exports of manufactures of Caoutchouc and Gutta-percha, officially reported, for 1902, stated in United States money, at par of exchange:

	Imports.	Exports.
Germany.....	\$3,017,002	\$11,132,768
a United Kingdom.....	[3,034,910]	5,910,647
United States ..	679,465	3,815,754
France (special commerce).....	3,194,836	1,706,418
Austria-Hungary.....	2,275,715	1,814,245
India.....	451,731	1,435,331
c Italy.....	808,420	604,817
d Canada.....	775,029	322,572
Total.....	\$14,237,418	\$26,969,592

a Not officially stated as yet; imports estimated on basis of five years' record; exports on basis of preceding returns. b Figures for December estimated on basis of preceding returns. c Figures for December estimated on basis of preceding returns. d Figures for December estimated on basis of preceding returns.

The combined excess of exports for the countries named was \$12,732,000, which represents approximately the value of the market for rubber goods outside of these leading manufacturing countries.

## RUBBER FOOTWEAR MOVEMENT FOR 1902.

Official Returns, Included in the Totals in the Preceding Table.

	Imports.	Exports.
Germany.....	\$ 1,047,676	\$ 452,438
a United Kingdom.....	[1,198,234]	835,458
United States ..	None.	1,065,592
France (special commerce).....	515,889	181,613
Austria-Hungary.....	285,047	464,353
b Canada.....	151,775	Not stated.
c Russia.....	None.	1,351,336

a Imports stated as yet; exports estimated on basis of preceding returns. b Imports stated as yet; exports estimated on basis of preceding returns. c Imports stated as yet; exports estimated on basis of preceding returns.

## MORE PROTECTION FOR AUSTRIAN RUBBER SHOES.

THE new tariff proposals of the Austro-Hungarian government involve an increase in the import duty on rubber footwear, per 100 kilograms, from 71.43 kronen [= \$14.28] to 100 kronen [= \$20.30], to enable the domestic factories to produce those higher priced articles of which the imports chiefly consist, and which, it is claimed, are now insufficiently protected. The Austrian imports of rubber shoes have increased rapidly in recent years—from an annual average of 29,040 pounds in weight in

the years 1883-1890, to an average of 386,540 pounds in the last ten years. The annual value during the latter period has averaged \$223,300. The export of such goods meanwhile has assumed considerable proportions. The figures for 1902 were equal to \$288,047 for imports and \$464,383 for exports. Russia, notwithstanding her enormous production for export, lays an import duty on rubber shoes of \$52.78 per 100 kilograms in weight, and in the new German tariff the rate on such goods has been raised from \$14.28 to \$23.80 per 100 kilograms. The value of rubber footwear imported into Austria is estimated at about 600 kronen [= \$121.80] per 100 kilograms.

## DOMINION OF CANADA.

OFFICIAL statement, for the last six months of three years, of values of free (crude) and dutiable (manufactured) imports of India rubber and Gutta-percha:

FREE.	1901.	1902.	1903.
Great Britain.....	\$ 78	\$ 4,773	\$ 6,367
United States.....	1,296,328	835,453	746,171
Other countries.....	5,225	12,418	513
Total.....	\$1,296,328	\$852,674	\$753,051
DUTIABLE:			
Great Britain.....	\$ 58,246	\$ 93,185	\$139,285
United States.....	196,382	289,597	274,253
Other countries.....	7,870	9,012	7,621
Total.....	\$262,498	\$391,794	\$421,159

## THE SOURCE OF PONTIANAK.

WRITING of the gum "Pontianak," in *The India-Rubber Journal*, Dr. C. O. Weber unaccountably says:

In America this product is used to a rather considerable extent, but I am inclined to think that much of the article that passes in America under the above name does not come from Borneo at all, but is the product of the Central American "false" *Castilloa*—that is *Castilloa tunu*.

While the source of this gum is as yet imperfectly known, it is certain that the gum marketed in the United States as "Pontianak" is not of American origin. It is designated in the United States customs returns "Gutta-jelutong," and is credited principally to Singapore, with smaller amounts from Great Britain. The importation from Singapore during the fiscal year 1901-02 amounted to 16,805,752 pounds—or more than the total production of Central American rubbers of all sorts for several years together. Besides, it is not likely that a Central American product would reach New York in sailing vessels—250 to 500 tons at a time—from Singapore. This is in addition, by the way, to our imports of India-rubber.

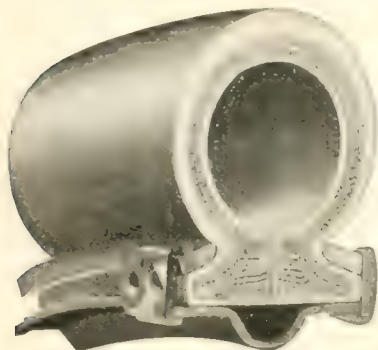
Mr. H. N. Ridley, F. L. S., in the *Agricultural Bulletin of the Malay Peninsula* (May, 1900—page 249) says of *Dyera costulata* (Hook. fil.): "This is the plant which produces the Jelutong rubber, in the Peninsula," after which he gives a description of the product, which corresponds to that of the gum imported so largely into the United States. The Singapore market statistics which reach this country also describe the material as "Gutta-jelutong." It is true that Mr. Ridley, who is the director of the botanic garden at Singapore, in more recent publications, is less confident that *Dyera costulata* is the plant yielding Pontianak, but this involves no doubt that the gum is of East Indian origin. For the manufacturer, of course, this botanical discussion has little interest. A former dealer in New York insisted that Pontianak was mined, and his customers did not stop to argue with him.

M. Fernand Vivier, after visiting Singapore and Mexico, assures the *THE INDIA RUBBER WORLD* that "Pontianak" and Chicle are identical. Then why should Chicle sell here for ten times as much?

## NEW GOODS AND SPECIALTIES IN RUBBER.

## THE FISK DETACHABLE VEHICLE TIRE.

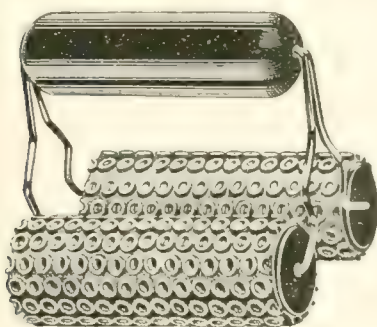
THE method of attaching this tire to the rim is new. It depends in no way upon the air pressure in the tire, and yet the adherence to the rim is such that the tire cannot come off or creep until the clamping bolts have been removed. The tire is attached to a perfectly flat steel rim, which greatly simplifies matters for the wheel manufacturer and for the maker of complete automobiles as well. The design of the tire is such that the base or the beads are held in such position that the inner tube cannot be pinched and there is no chance, even in the hands of the most inexperienced, of any mistake being made or of the inner tube blowing out when the rings and bolts are once in place. These rings, which hold the tire in place, have an inside angle surface, and the tire is so designed that the beads play the part of an inside coned wedge serving two purposes: first, of clamping the beads together, and second, of locking the base of the tire firmly to the rim, thereby making creeping impossible. The necessity for heavy prying tools is thus avoided, and any one who can use an ordinary S wrench can attach or detach a tire of any size with slight exertion and in a very few minutes, besides which there is the further advantage that all parts of the tire are visible during the operation. Owing to the method of its manufacture, the tire cover when off the wheel assumes the same shape as when attached, which enables the operator to insert the inner tube without fear of its becoming misplaced, pinched, or wrinkled while the tire is being attached. The clamping bolts are provided with a threaded washer and check nut to prevent all liability of their working loose. The entire air space in this tire is above not only the rim, but also the entire clamping device, thereby securing maximum action on the tire, since no portion of the air chamber is in any way confined. The material used is identical with that in the Fisk single tube tire, including the special Fisk fabric, which has proved so successful. The distinctive features of the tire are covered by patents in the United States and abroad. [Fisk Rubber Co., Chicopee Falls, Massachusetts.]



and bolts are once in place. These rings, which hold the tire in place, have an inside angle surface, and the tire is so designed that the beads play the part of an inside coned wedge serving two purposes: first, of clamping the beads together, and second, of locking the base of the tire firmly to the rim, thereby making creeping impossible. The necessity for heavy prying tools is thus avoided, and any one who can use an ordinary S wrench can attach or detach a tire of any size with slight exertion and in a very few minutes, besides which there is the further advantage that all parts of the tire are visible during the operation. Owing to the method of its manufacture, the tire cover when off the wheel assumes the same shape as when attached, which enables the operator to insert the inner tube without fear of its becoming misplaced, pinched, or wrinkled while the tire is being attached. The clamping bolts are provided with a threaded washer and check nut to prevent all liability of their working loose. The entire air space in this tire is above not only the rim, but also the entire clamping device, thereby securing maximum action on the tire, since no portion of the air chamber is in any way confined. The material used is identical with that in the Fisk single tube tire, including the special Fisk fabric, which has proved so successful. The distinctive features of the tire are covered by patents in the United States and abroad. [Fisk Rubber Co., Chicopee Falls, Massachusetts.]

## BAILEY'S DUPLEX MESSAGE ROLLER.

THE single rubber massage roller, with its many little rubber suction cups, has already been illustrated and described in THE



INDIA RUBBER WORLD but the double roller shown herewith, while equally efficacious and novel, has some points of difference. To begin, it does twice the work, and the spring from handle to roller gives a secondary massage motion very much like that supplied by the trained

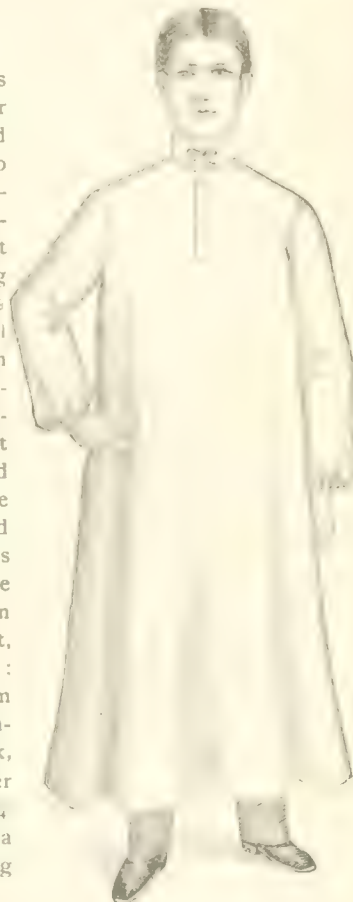
hands of the *masseuse*. The duplex roller is made of the very best of materials, and is having a phenomenal sale. [C. J. Bailey & Co., Boston, Massachusetts.]

## "MOBILENE" PACKING FOR AUTOMOBILES.

A SPECIAL packing for gas and gasoline engines, such as are used on automobiles, was bound to be required and supplied. Such a packing is the Mobilene, which is supplied either in sheets 40 inches square, or rolls 40 inches wide, the sheets being  $\frac{3}{4}$  of an inch thick and the weight  $4\frac{1}{2}$  pounds per square yard. [A. J. Wilkinson & Co., Boston, Massachusetts.]

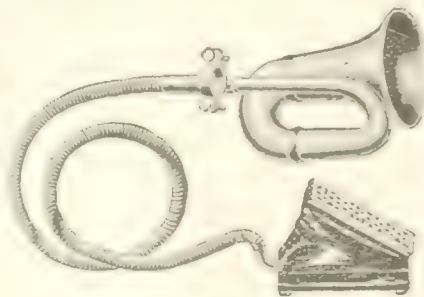
## AUTOMOBILE AND FISHING COAT.

A RUBBER garment that has become instantly popular among automobilists and which has also been taken up with enthusiasm by the sporting goods houses for fishermen and huntsmen, is the coat shown in the accompanying illustration. It is really a poncho with sleeves, and will protect the wearer from rain whether seated in an automobile, in a boat, on horseback, or while walking. It is slipped over the head and tied around the neck, while the wristbands are fitted with elastic cord which keeps moisture from getting up the sleeves. It is 50 inches in length, very full in the skirt, and is made in two colors: The tan, which is of pure gum run on light sheeting, weighing  $2\frac{3}{4}$  pounds; the black, which is run on a trifle lighter sheeting, weighing  $2\frac{1}{4}$  pounds. [Goodyear's India Rubber Glove Manufacturing Co., New York.]



## A NEW FRENCH AUTOMOBILE HORN.

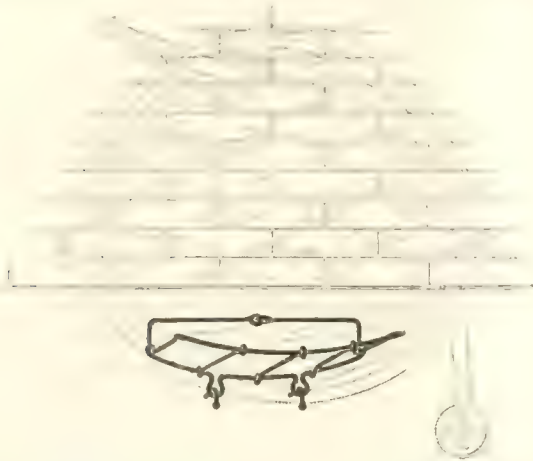
THE trade in automobile horns continues to develop novelties, which are useful as well, and one of the most recent is a French production which is illustrated in the accompanying cut. It is a foot operated horn, pressure on a bellows causing a stentorian sound to be emitted, thus leaving the hands free to manipulate the steering of the automobile. These horns are furnished in either brass or nickel finish. [A. H. Funke, No. 325 Broadway, New York.]





## A NEW RACK FOR GARDEN HOSE.

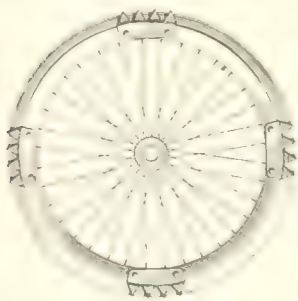
THERE has long been a demand for a practical, simple, and inexpensive device for supporting and stowing garden and lawn



hose. Such a device, to be appreciated and used by the householder, must consist of few parts and be understood at a glance. It would seem that the "Champion" hose rack, shown in the accompanying illustration, fills all of these requirements. It is made entirely of heavy galvanized wire and can be hung by the side of the house, stable, or cellar, where it offers a perfect support for the hose, either in a tight or loose coil, keeping it out of the way, in a good condition, and always ready for immediate use. [Boston Belting Co., Boston, Massachusetts.]

## CAULFIELD'S PATENT GRIP WHEEL.

UNITED STATES patent No. 670,664, granted to John Caulfield (No. 74 Nelson street, Brooklyn, New York), relates to the gripping members upon the rims of wheels for automobiles for the purpose of preventing slipping on mud, ice, or snow. It is stated that they can run on ice on a 60 per cent. grade, and one advantage is that they will extend the life of a tire in preventing damage from its tearing loose. They may be easily and quickly removed when summer comes.



## TELESCOPIC POCKET ATOMIZER.

THE rubber bulb in this device is so made that when the atomizer is not in use the cylindrical glass reservoir can be pushed into the bulb, forming a very compact instrument, the bulb also furnishing a good protection for the glass when carried in the pocket. The spray tubes are made of glass attached to and forming part of the outer glass tube, which serves as a container for the medicament used. The reservoir is designed to hold sufficient for at least one day's treatment. The smaller cut herewith shows the instrument ready for the pocket. The other shows the same when ready for use. United States patent granted October 28, 1902. [Whitall Tatum Co., Nos. 46-48 Barclay street, New York.]



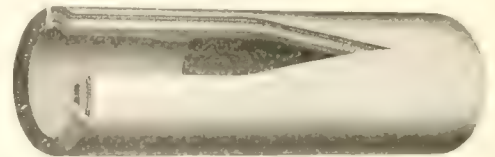
## RUBBER COMPLEXION BULB.

THIS illustration suggests the form of a rubber bulb which is offered as capable of being used with advantage in connection with massage cream and other like preparations for facial massage. [The Pompeian Manufacturing Co., Cleveland, Ohio.]



## GOODRICH AIR BRAKE HOSE.

THE illustration herewith will give an idea of the method of construction of the air brake hose manufactured by The B. F. Goodrich, Co. (Akron, Ohio), involving a special feature which is peculiar to their line of hose. This reënforcement



on the inside by a nipple cushion serves to extend the length of satisfactory use, in a way which will be apparent to all who are accustomed to handling air brake hose.

## SUCCESS OF A YOUNG ENGINEER.

"IN all the annals of the New South's industrial awakening," says the *New York Sun*, in one of a series of articles on modern conditions in the southern United States, "there could not be found a more typical chapter than is afforded by the extraordinary career of this young southerner"—referring to a man who has taken the lead in cotton manufacturing enterprises at Columbia, South Carolina. This successful man is W. B. Smith Whaley, a native of Charleston. "He had a passion for machinery and had worked his way through New England cotton mills to Cornell [University], and through Cornell to a New England architect's office, whence he was graduated with a good training and an immense amount of enthusiasm." Such had been his preparation for life's work when, in 1892, he settled at Columbia, and, in connection with a partner, under the style of W. B. S. Whaley & Co., invited commissions in mill designing and construction. The firm have since designed mills for sixteen cotton manufacturing companies, employing 539,676 spindles, 14,560 looms, and a capital of \$8,500,000.

But Mr. Whaley has not been content with designing mills; he has organized companies, as well, and is now president of three cotton manufacturing corporations with mills at Columbia, employing \$3,000,000 of capital and working 191,000 spindles and 4620 looms. This represents the largest cotton manufacturing investment in the South, and one of the largest in the United States. One of these mills—the Olympia, with 10 acres of floor area—is not only the most extensive in existence under one roof, but it is regarded as the best and most complete cotton mill in the world. There has come into existence a new and prosperous and more populous Columbia, all through the development of water power into electric power and its application to the cotton industry. Speaking of the success of Mr. Whaley in connection with this development, the *New York Sun* says: "Perhaps nowhere else in the United States would such a career have been possible within the past decade, for nowhere else were such opportunities offered to a young man with the energy and the brains to seize them and make the most of them." Mr. Whaley is yet in his early "thirties."

## RECENT RUBBER PATENTS.

## THE UNITED STATES PATENT RECORD.

ISSUED FEBRUARY 3, 1903.

- N**O. 719,418. Electric accumulator plate. Auguste Bony, Nanterre, France.
- 719,425. Process of making self mending tires. John W. Blodgett, assignor to the N Tire Co., both of Chicago, Illinois.
- 719,498-719,499-719,500. Ball [comprising perforated porous or sponge rubber, held under compression by tape or bands, and an outer cover of paper or fibrous material]. Kenyon V. Painter, Cleveland, Ohio.
- 719,529. Fountain pen. Harry W. Stone, Brooklyn, New York., assignor to A. A. Waterman, Cambridge, Massachusetts, and Adolph Briebach, Boston.
- 719,586. Insufflator. Sayer Hasbrouck, Providence, Rhode Island.
- 719,587. Atomizer. *Same*.
- 719,588. Spraying device. *Same*.
- 719,600. Insulating high potential apparatus. Walter S. Moody, assignor to the General Electric Co., both of Schenectady, N. Y.
- 719,687. Hoof boot or pad. George W. Nickerson, Wellfleet, Mass.
- 719,693. Cushion tread horseshoe. Albert J. Puhl, Joliet, Illinois.
- 719,927. Tire [elastic tubular]. Charles H. Wilkinson, Huddersfield, England.

ISSUED FEBRUARY 10, 1903.

- 720,019. Measuring vest [of elastic material]. Robert W. Grendon, Tiffin, Ohio.
- 720,071. Hot air syringe [for use in connection with a lamp and a compressible bulb]. Joseph I. Richards, San Francisco, California.
- 720,281. Machine for coating fabric with rubber. John H. Pearce, assignor to H. Stuart Hotchkiss, both of New Haven, Connecticut.
- 720,482. Process of making shells for playing balls. Francis H. Richards, Hartford, Connecticut, assignor to The Kempshall Manufacturing Co.
- 720,493. Machine for applying elastic bands to articles of manufacture [especially to disc like articles, such as telephone transmitter diaphragms]. Michael Setter, assignor to American Electric Telephone Co., both of Chicago, Illinois.

ISSUED FEBRUARY 17, 1903.

- 720,631. Vulcanizing apparatus. William E. Smith, assignor to the Clifton Manufacturing Co., both of Boston, Massachusetts.
- 720,639. Pneumatic tire [for heavy vehicle wheels] Francesco Toni, London, England.
- 720,648. Syringe. Edward B. Wilder, St. Louis, Missouri.
- 720,737. Playing ball. Francis H. Richards, Hartford, Connecticut, assignor to The Kempshall Manufacturing Co.
- 720,788. Chair pad [for rockers]. Elmer E. Davenport, Denver, Col.
- 720,852. Golf ball. [Combination of rubber body, silk envelop, and outside jacket of Gutta-percha.] Friend W. Smith, Jr., Bridgeport, Connecticut, assignor to Holdredge Co., New York.
- 720,882. Rocker for chairs, hobby horses, etc. Benjamin J. Buckman, Newfield, New Jersey.
- 721,049. Insulating ferrule [for umbrellas and the like.] Howard E. Kern, Allentown, Pennsylvania.
- 721,051. Toy gas balloon. Alfred J. King, Los Angeles, California, assignor of one fourth to Thomas Candy, Chicago.
- 721,112. Device for moistening adhesive surfaces [as postage stamps—involving an elastic cup]. William J. Weaver and Casper F. Hoffmann, Reynoldsville, Pennsylvania.

*Trade Mark.*

- 39,817. Syringes or douches of rubber. Meinecke & Co., New York. *Essential feature*.—The word "Wonder." Used since October 1, 1902.

ISSUED FEBRUARY 24, 1903.

- 721,138. Clothes wringer. Ross E. Beekman, Independence, Kansas.
- 721,146. Outer cover for pneumatic tires [comprising a canvas or fibrous foundation]. Joseph Butler, Altrincham, England, assignor of two-thirds to William Bell and William A. Jones, both of England.
- 721,192. Rubber mattress. Joseph Holland, Akron, Ohio.
- 721,366. Dress shield attachment [for holding it in place]. Victor Guinsburg, assignor to I. B. Kleinert Rubber Co., both of New York.

- 721,462. Manufacture of playing balls. Francis H. Richards, Hartford, Connecticut.
- 721,463. Golf ball. *Same*.
- 721,549. Fountain pen. August Elberstein, Boston, Massachusetts. *Trade Marks*.

- 39,858. Wringing machines. The American Wringer Co., New York. *Essential feature*.—The words "New Home." Used since 1888.
- 39,859. Wringers. The American Wringer Co., New York. *Essential feature*.—The word "Colonial." Used since March 24, 1897.

[NOTE.—Printed copies of specifications of United States patents may be ordered from THE INDIA RUBBER WORLD offices at 10 cents each, postpaid.]

## THE BRITISH PATENT RECORD.

[\* Denotes Application from the United States.]

APPLICATIONS—1903.

126. A. S. Morrison, London. Method of attachment of pneumatic tires to rims. Jan. 2.
130. W. H. Rymer, Liverpool. Pneumatic tire. Jan. 2.
147. E. W. Wooders, Manchester. Rubber heel plates for boots. Jan. 3.
218. W. M. Mackintosh and A. Smith, Manchester. Method of manufacture of waterproof fabrics and machinery for the same. Jan. 5.
243. F. H. Lyell, London. Pneumatic tire. Jan. 5.
337. H. Bremer, London. Elastic tire for vehicles. Jan. 6.
395. P. Parker, Glasgow. Pneumatic cycle tire. Jan. 7.
676. E. E. Hill, London. Motor and cycle tire. Jan. 10.
729. B. C. Sellars, Manchester. Improvement in motor tires. Jan. 12.
753. C. H. Gray and T. Sloper, London. Pneumatic tire. Jan. 12.
801. R. Harris, H. J. Harris, and E. W. Harris, Bristol. Rotatable heel for boots. Jan. 13.
815. J. J. Pease and E. Schumacher, Darlington. Improvement in tires and rims for motors. Jan. 13.
841. M. Bray, London. Elastic tread for boots. Jan. 13.
- \*868. R. H. Smith, London. Apparatus for vulcanizing and molding rubber. Jan. 13.
875. G. C. Marks, London. Pneumatic tire. (J. R. Brunt and R. C. Pitt, New Zealand). Jan. 13.
- \*876. G. C. Marks, London. Golf ball. (Lawrence M. Selzer, United States.) Jan. 13.
879. L. Guignet, London. Pneumatic tire for vehicles. Jan. 13.
893. E. Paris, London. Pneumatic tire. Jan. 13.
- 1,094. V. Gallien, London. Pneumatic tire for vehicles. Jan. 15.
- 1,111. W. H. Jackson, Halifax. Non-slipping fibrous rubber. Jan. 16.
- 1,139. A. Pulbrook, London. Air cushion. Jan. 16.
- 1,142. A. Pollard, London. Pneumatic sanitary respirator. Jan. 16.
- 1,154. Dover, Limited, and H. W. Dover, London. Inflator for tires. Jan. 16.
- 1,211. E. Behnisch, London. Valve for air cushions. Jan. 17.
- 1,216. W. Clifford, London. Pneumatic tire. Jan. 17.
- 1,217. H. O. Tahourdin, London. Non-slipping device for cycle and motor tires. Jan. 17.
- 1,223. S. Fox, Leeds. Pneumatic tire. Jan. 17.
- 1,284. F. S. Ornstien, London. Apparatus for the manufacture of tire covers. Jan. 19.
- 1,285. F. S. Ornstien, London. Method of and means for shaping tire covers. Jan. 19.
- 1,282. J. H. W. Fitzgerald, London. Tire for self propelled vehicles. Jan. 19.
- 1,420. C. Miller, London. Pneumatic tire. Jan. 20.
- 1,426. G. L. Lloyd-Beach, St. Leonards-on-Sea. Pneumatic tire. Jan. 20.
- 1,435. W. C. Lilly, London. Elastic wheel tire. Jan. 20.
- 1,446. N. Spiro, London. Improvement of waterproof garments. Jan. 20.
- 1,452. P. E. Doolittle, London. Appliance for collapsible tire. Jan. 20.
- 1,549. S. H. Sewell, Glasgow. Improvement in cycle and motor tires. Jan. 22.
- 1,552. E. Bert, Liverpool. Resilient tire for cycles and motors. Jan. 22.
- 1,782. W. Simpkin, London. Machine for molding plastic masses. Jan. 24.

## PATENTS GRANTED.

[A BRITISH PATENT HAS BEEN GRANTED TO EACH OF THE FOLLOWING.]

- 18,290 (1901). Vehicle brake and tire [with detachable outer cover con-



- structed with a view to the use of puncture healing liquid]. A. A. Wade, Leeds.
- 18,991 (1901). Pneumatic tire [with cover attached to the rim by inflation of the inner tube]. L. Johnstone, Manchester.
- 18,475 (1901). Pneumatic tire [with special construction of the outer cover]. J. Heath and F. E. Preston, Leicester.
- 18,522 (1901). Gutta-percha [freed from air and in state of elasticator in which a vacuum is maintained]. D. N. Bertram and S. Milne, Edinburgh.
- 18,565 (1901). Toe cap and sole protector for boots [of rubber, metal, or other material]. D. W. John, Runcorn, Cheshire.

#### AMERICAN PATENTS GRANTED, JANUARY 28, 1903.

- 18,931 (1901). Elastic woven fabric [for shoe insertions]. J. Wassertrüding, Barmen, Germany.
- 18,941 (1901). Pneumatic tire. C. W. S. Crawley, London.
- 18,964 (1901). India-rubber sheets [for dress shields and non porous garments; made of 100 parts Para rubber, 80 white zinc oxide, 40 magnesia, 6 litharge, and any coloring matter; after being sheeted the mixture is vulcanized cold with acid]. A. C. Blossier, Paris.
- \*18,969 (1901). Rubber horseshoe plate. S. McCloud, South Chicago, Illinois.
- 19,030 (1901). Pneumatic tire [method of attachment to rim with wires]. W. Heale, Battersea, Surrey.
- 19,092 (1901). Pneumatic tire [relating to weaving of the outer cover band]. F. Reddaway, Pendleton, Manchester.
- 19,233 (1901). Pneumatic tire [with outer cover attached to the rim by inflating the air tube]. E. A. Preston, Leicester.
- 19,243 (1901). Pneumatic tire [with thickened tread of outer cover and edges flanged to hold the tire in position independent of inflation]. R. Jackson, Altrincham, Cheshire.

#### AMERICAN PATENTS GRANTED, JANUARY 28, 1903.

- \*19,541 (1901). Pneumatic tire [with sections inflated through a continuous tube around the rim, having a single valve]. C. Miller, Binghamton, New York.
- \*19,589 (1901). Bottle stopper [held in place with wires]. J. B. Crosby, Buffalo, New York.
- \*19,672 (1901). Solid vehicle tire [with recesses along its base edges to allow lateral expansion, for preventing creeping]. W. W. Leavenworth, Batavia, New York.

#### AMERICAN PATENTS GRANTED, JANUARY 28, 1903.

- \*19,862 (1901). Detachable pneumatic tire. H. E. Erwin, Galesburg, Illinois.
- \*20,051 (1901). Pneumatic tire [made of fabric woven specially, to minimise the lateral distension produced by inflation and thus lessen tendency to puncture]. I. S. McGiehan, New York city. (Date of application in United States, April 13, 1901).

#### THE GERMAN PATENT RECORD.

##### PATENTS GRANTED--1903.

- 139,829 (Class 39b). Cold process for vulcanizing Caoutchouc and objects made of it. Fr. Boezel, Altötting, Upper Bavaria. Jan. 28.
- 139,722 (Cl. 63c). Rubber tire with wooden core. Charles A. Pettie and Emma C. Pettie, Brooklyn, New York. Jan. 28.
- 140,445 (Cl. 39a). Process for making Golf balls. Eleazer Kempshall, Boston, Massachusetts. Feb. 18.
- 140,424 (Cl. 39b). Process for making artificial leather. Dr. G. Gautier, Paris, France. Feb. 18.
- 140,409 (Cl. 63c). Process for fastening elastic tires. Herbert A. Stonard, Leystone, and Horatio Sheaf, Wanstead, England. Feb. 18.
- 140,452 (Cl. 63c). Rubber air tires. G. W. Pitt and Ed. Martin, London, England. Feb. 18.

##### PATENTS WITH MODELS FILED.

- 191,076 (Class 154). Removable handle for stamp, elastically connected with the plate by means of an interlayer of rubber. Leo Boeren, Cologne. Jan. 28.
- 191,113 (Cl. 30d). Rubber urinal, with upper part of Gutta-percha, for men. A. Baumert, Berlin. Jan. 28.
- 191,117 (Cl. 30c). Urethral syringe, consisting of hollow rubber bulb and long pliable tube. Albert Rietz, Berlin. Jan. 28.
- 191,388 (Cl. 31). Caoutchouc shoe for the feet of chairs and tables. Carl Unger, Köslin. Jan. 28.
- 191,622 (Cl. 47f). Elastic packing rings. Mrs. C. Flugge, Hamburg. Feb. 4.
- 191,886 (Cl. 47f). Gas hose of spiral spring, spirally wound gluten covered textile, and a rubber nozzle. W. Hensche & Co., Elberfeld. Feb. 4.

- 192,176 (Cl. 56b). Pneumatic cushion for army saddles. Julius Jansen, Strassburg. Feb. 11.
- 192,991 (Cl. 11e). Portfolio with elastic bands arranged on the inner side. Emil Stapel, Hamburg. Feb. 18.
- 192,543 (Cl. 45b). Tin or wooden tray with rubber lining, provided with perforations, for holding seedlings when transplanting. Hermann Schumacher, Hans-Dalheim. Feb. 18.
- 192,675 (Cl. 63c). Tires for auto-wagon or cab wheels, with woven rope core and rubber covering. Quadrat-seilfabrik "Patent Bet." G. m. b. H., Mannheim. Feb. 18.

#### APPLICATIONS.

- 16,464 (Cl. 39b). Process for the manufacture of a substitute for Gutta-percha. Felton u. Guillaume Carlswerk, Akt.-Ges., Mulheim-on-Rhine. Feb. 4.
- 10,566 (Cl. 63c). Elastic tire for vehicles. William E. Carmont, Helmsdale, England. Feb. 4.
- 7,700 (Cl. 45i). Elastic innersole for horseshoes, having a rubber plate between hoof and shoe attached to a pad of soft rubber. Gustav Topp, Frankfort-on Main. Feb. 18.

#### NEW TRADE PUBLICATIONS.

JENKINS BROTHERS (No. 71 John street, New York) issue a catalogue for 1903 of their metal valves and similar goods, in connection with which is listed a very full line of rubber pump valves, the Jenkins Standard '96 Packing, gaskets, tubing, union rings, washers, and the like. The rubber goods listed are the product of a factory owned by the firm. The catalogue is illustrated and includes prices. [5"×7¾". 80 pages.]

KOKOMO RUBBER CO. (Kokomo, Indiana) issue a new catalogue of Kokomo vehicle tires—solid wired on and cushion—with prices. The cover is embellished with a portrait of Chief Kokomo, some time the biggest man in that community. [3¼"×6¾". 16 pages.]—Another catalogue is devoted to their line of bicycle tires, in which the Kokomo "Defender" is the leader. [3½"×6". 8 pages.]

GORHAM RUBBER CO., INC. (San Francisco, and Seattle), are distributing a neat pocket memorandum book, in celluloid covers, with a calendar and information useful for reference, not omitting some details in regard to their full line of rubber goods.

PARKE & PARKE, wholesale and retail druggists at Hamilton, Ontario, have issued a very complete price catalogue of Reliable Rubber Sundries. As it has been designed largely for their out of town customers, many of whom live in places where good stocks of rubber goods are not kept, the amount of postage required for each article is added. The goods listed are principally from the factory of the Davol Rubber Co. (Providence, Rhode Island.) [4½"×7½". 28 pages.]

RUBBERHIDE CO. (Boston) issue a catalogue of Rubber Boots and Shoes with Leather Soles—manufactured under patents—illustrated with styles of goods for the use of miners, ditchers, stablemen, lumbermen, sportsmen, etc. [3¼"×6". 20 pages.]

THE GUTTA PERCHA AND RUBBER MANUFACTURING CO. OF TORONTO, LIMITED, issue, under date of March 16, 1903, their seventh annual catalogue of Rubber Boots and Shoes, to which title is added this year "and Rubber Heels." The production of this company comprises the "Maltese Cross" and "Lion" brands, which are fully illustrated, and list prices given. Several different styles of rubber heels are shown, so prominently as to indicate that this class of goods figures to an important extent in the Dominion trade. [4"×6½". 64 pages.]

#### ALSO RECEIVED.

THE B. F. Goodrich Co., Akron, Ohio—The Pickett All Rubber Valve. 4pp.

Apsley Rubber Co., Hudson, Massachusetts.—"Tis a Feat to Fit Feet" [and other leaflets advertising Apsley footwear.]

C. J. Bailey & Co., No. 22 Boylston street, Boston—Bailey's Massage Rollers and How to Use Them. 12 pp.

# GOODRICH RUBBER GOODS.

## MECHANICAL RUBBER GOODS.

Bands and Tires — For Pulleys,  
Carpet Sweepers, Truck  
Wheels, etc.

Belting — Rubber and Gutta-  
Percha.

Billiard Cushions.

Buckets for Chain Pumps.

Carriage Mats.

Carriage Rubber  
Anti-Rattlers.  
Top Prop Blocks.  
Springs.

Corks, or Stopples.

Coffin Strips.

Cushions for Bradley Hammers

Crutch Tips.

Chair Tips.

Diaphragms.

Door Springs.

Electrical Friction Tape.

Electrical Socket Covers.

Electrical Bushings.

Fruit Jar Rings.

Fuller Balls.

Gaskets, every description.

Grain Drill Tubes.

Grain Drill Feeders.

Hat Bags.

Hose: Armored.  
Garden. Rubber and Cotton.  
Steam  
Browsers.  
Air.  
Pneumatic.  
Chemical Engine and Divers.  
Oil, Acid, Coke, Gas.  
Hydraulic High Pressure.  
Suction  
Tank.  
Fire, Rubber and Cotton.  
Mill, Rubber and Cotton.

Hose, Railroad  
Air Brake.  
Water Conducting.  
Engine.  
Car Heating.  
Vacuum, etc.

Maillets.  
Mold Work, to order.  
Mats.

Matting.

Oil Well Supplies.

Paper Machine Rolls.

Press Rolls.

Couch Rolls.

Squeeze Rolls.

Water Finish Rolls.

Packing.

Rings, all kinds.

Rolls Rubber Covered —

For Tobacco Factories.

For Woolen Mills.

For Cotton Mills.

For Tanneries.

For Bleacheries.

For Cloth Printing Mills.

For Laundry Machinery.

Pulley and Sheave Filling.

Plumbers' Goods, all kinds.

Pure Sheet Rubber.

Rubber Cord.

Rubber Springs.

Screw Bumpers.

Sewing Machine Rubbers.

Springs.

Stair Treads.

Tiling.

Tack Tips.

Truck Bands.

Weather Strips.

Tubing.

Type Writer Rolls.

Valve Balls.

Valves, red and gray.

Washers, every description.

Wringer Rolls.

## TIRES.

Bicycle — Palmer, Goodrich, M. & W., G. & J., Buckeye,  
Juvenile.

Vehicle — Goodrich Clincher Automobile, Goodrich  
Single Tube Motor, Goodrich Solid.

## DRUGGISTS' AND STATIONERS' SUNDRIES.

Air Goods Beds, Cush-  
ions and Pillows.

Aprons.

Atomizers.

Bags.

Bands.

Bandages.

Bath Caps.

Beds — Water and Air.

Bed Pans.

Belts.

Bottles.

Breast Pumps.

Breast Shields.

Bulbs.

Bulb Syringes.

Catheters.

Coils.

Colon Tubes.  
Copying Press Sheets  
Corks.  
Cups — Drinking.  
Cupping Cups.  
Cushions.  
Dental Rubber.  
Dental Dam.  
Dilators.  
Drainage Tubes.  
Embalmer's Pillows.  
Erasive Rubber.  
Face Bottles.  
Filters Pocket.  
Finger Cots.  
Furnace Bulbs.  
Gas Bags.  
Gloves.

Hospital Sheeting.  
Ice Bags.  
Ice Caps.  
Medicine Droppers.  
Nasal Douche.  
Nipples.  
Nipple Shields.  
Nursing Bottle Fittings.  
Obstetrical Cushions.  
Ornamenting Bags.  
Pessaries.  
Photographers' Bulb  
Outfit.  
Pillows.  
Plant Sprinklers.  
Plaster Bowls.  
Politzer Bags.  
Rectal Tubes.

Rectal Bougie.  
Sheeting.  
Sponge Bags.  
Sponge Rubber.  
Stationers' Bands.  
Stomach Tubes.  
Stoppers.  
Surgical Appliances.  
Syringes.  
Teething Pads and Rings.  
Tourniquets.  
Tubes.  
Tubing.  
Umbrella Rings.  
Urinals.  
Water Bags.  
Water Beds.  
Water Bottles.

## TOYS AND SPORTING GOODS.

Bicycle Luggage Carriers.  
Foot Balls.  
Basket Balls.  
Toy Balls.  
Hand Balls.  
Golf Balls.  
Foot Ball Bladders.

Basket Ball Bladders.  
Striking Bag Bladders.  
Golf Ball Sponge Case.  
Golf Club and Tennis Racket  
Handle Covers.  
Gun Recoil Pads.  
Pistol Holsters.

Slingshot Rubbers.  
Tobacco Pouches.  
Toys  
Brownies.  
Punch Rattle.  
Russian Figures.  
"Little Minister," etc.

## EVERYTHING IN RUBBER.

# THE B. F. GOODRICH COMPANY,

AKRON RUBBER WORKS,

## AKRON, OHIO.

NEW YORK — 100 N. Canal St.  
CHICAGO — 111 Lake St.  
PHILADELPHIA — 522 Arch St.  
BOSTON — 157 Summer St.  
BUFFALO — 17 W. Huron St.

INDIANAPOLIS — 100 N. Canal St.  
CINCINNATI — 100 N. Canal St.  
COLUMBUS — 100 N. Canal St.  
DETROIT — 100 N. Canal St.



# THE DIAMOND BRANDS



**NEW YORK BELTING & PACKING CO. LTD.**

Boston, Philadelphia, Chicago, St. Louis, NEW YORK, San Francisco, Baltimore, Indianapolis.

ECCE SIGNUM.



## THOROUGHLY RELIABLE.

The policy of furnishing only the finest goods that can be produced with perfect materials, latest and best machinery, and highly skilled workmen of long experience, has been, is now, and will continue to be, the policy of

## The Mechanical Rubber Company, CHICAGO, ILL.

Branch Store, No. 1810 Blake Street, Denver, Colo., where we carry a full line of goods.

Manufacturers of all kinds of rubber goods for mechanical uses—Hose, Belting, Packing, Gaskets, Bicycle Tires, Specialties, Moulded Goods, Etc., Etc.

If you are unable to satisfy your trade with goods you are supplying,  
If you are in search of good goods at fair prices,  
If you cannot get quick deliveries,  
If you are not getting fair value for your money,  
IN ANY EVENT,

SEND TO US FOR SAMPLES AND  
QUOTATIONS. . . . .  
WE CAN SUIT YOU EVERY WAY.

FACTORY, GRAND AVE. & ROCKWELL STS

**THE MECHANICAL RUBBER CO., 230 Randolph St., Chicago, Ill.**

*Mention the India Rubber World when you write*

### THE LARGEST RUBBER COVERED ROLLER.

THE art of covering heavy metal rollers for squeeze rolls in various industries, particularly in that of paper making, is notably one of the fine arts of the rubber business. Only those who make and those who use the rolls are aware of the difficulty that is met in vulcanizing a body of high grade rubber so firmly to a mass of metal that no pressure or strain or slip shall allow it to loosen from the roll at any point. A few years



RUBBER COVERED ROLLER FOR PAPER MAKING MACHINE.

ago, the successful covering of small rolls was quite a triumph. To-day, however, such is the progress made that rolls like that in the accompanying illustration are covered accurately and successfully. The roll in question, which is said to be the largest ever covered, is 24 inches in diameter; the length of the face being 161 inches and its total weight being about six tons. The cut shows the rubber roll on its shipping truck in the packing room of the manufacturers, the Boston Belting Co. (Boston).

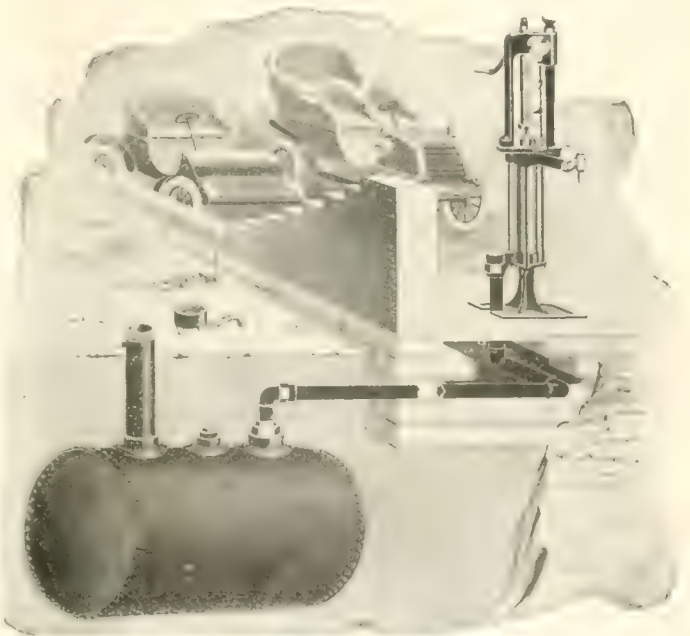
The roll illustrated was made to form part of the largest paper making machine in the world—a straight Fourdrinier machine, built and installed in the mills of The Remington-Martin Co., at Norfolk, New York, by The Bagley & Sewall Co. (Watertown, N. Y.) This machine will finish a continuous sheet of paper, 12 feet 6 inches wide, at the rate of 450 to 500 feet per minute, or four miles in length in an hour or less. The same makers have under contract several other paper making machines practically as large, for which similar rubber rolls will be required.

### STORAGE OF GASOLINE AND NAPHTHA.

TIRE manufacturers are not the only rubber men to receive benefit from the extension of the automobile industry. The increased use of gasoline in automobile carriages, and the consequent necessity of having safe and convenient means for storing and pumping gasoline, have stimulated inventors to arrange outfits for that purpose, and many rubber manufacturers have secured them. The outfit illustrated herewith is constructed by S. E. Bowser & Co. (Fort Wayne, Indiana), and has been approved by the National Board of Fire Underwriters and by municipal authorities in many large cities. It consists of a metal tank, which is commonly buried in the ground some distance away from the building in which the gasoline is to be used. At one end of the tank is the filling pipe, so constructed as to project slightly above the surface of the ground. This pipe is covered by a metal cap which is fastened in place by a lock strap. When the cap is open a ball bearing vent valve appears, and this in turn may be unscrewed, leaving an open

pipe for the process of filling. An ingeniously graded measuring rod enables the filling to be done accurately and economically. Tanks are made in various sizes, but are generally constructed from specifications. The range thus far covered, runs from one barrel to a hundred. In some cases, where the building has had no open area available in its neighborhood, the tank has been buried in a solid brick vault in a basement. The air valve, while permitting the ingress of air necessary to pressure, prevents evaporation almost perfectly. A feed pipe and a drip pipe lead from the tank to the building where the gasoline is to be served. The feed pipe connects directly with a suction pump, fitted with self registering indicator of measure, and so constructed that a gallon, a half-gallon, or a quart of naphtha can be drawn at a time. In the tube of this pump is all the gasoline that the apparatus requires to have in the building which it serves—never more than one gallon. It is claimed that the pump is so strongly constructed that it would not explode in a burning building. The drip pipe, which is fitted with a trap, takes

the waste back to the tank. Under ordinary circumstances this pumping arrangement works only to a height of 12 feet above the tank, but special devices have been applied so that in the Providence factory of the Bourn Rubber Co. naphtha is delivered on the fifth floor.



STORAGE TANK FOR GASOLINE AND NAPHTHA.

THE *London Cyclist* mentions a motor cycle that has been run for 5570 miles with only one tire puncture, and several others which had gone from 1500 to 2700 without mishaps to the tires. Mention is made also of motor cycle tires which had gone for a surprisingly long time without reinflation—up to six months in one case. Motor tires stand up well in this respect, the *Cyclist* says, because the inner tubes are thick, approaching more nearly than bicycle tires to being actually airtight.



## THE OBITUARY RECORD.

**JOHN WOOD KNOTT**, who for several years had been in charge of the European depot of the United States Rubber Co., died on March 14 in London, in which city he was born about forty years ago, and where he was educated and spent his business life. After having been engaged for some time in



JOHN W. KNOTT.

connection with the European agency of the American Tobacco Co., he was placed in charge of the London branch of the Boston Rubber Shoe Co., conducting its affairs so satisfactorily that after the merger with the United States Rubber Co. he was made their agent for Europe, with offices at 47, Farringdon street, E. C. Mr. Knott proved to be a man of capacity and his energy in seeking to build up the business in his care was rewarded with marked success, as shown by the increased sale of American rubber footwear in Europe. He had enjoyed the best of health until within two or three weeks of his death, when he was found to be suffering from blood poisoning, after which he was attacked by pneumonia. The United States company's office, which he leaves well organized, will continue for the present without change. Mr. Knott held the office of major in the City of London Artillery. He is survived by a widow and several children. He made two visits to the United States, in connection with the rubber footwear business, as a result of which he gained many friends here.

\* \* \*

**FREDERICK L. HOLMES**, assistant superintendent at the factory in Passaic, N. J., of The Okonite Co., Limited (New York), died on February 26. The members of the veteran association of the Twenty-third regiment, New York State Guard, and of Company I, which he commanded for nine years, attended the funeral, on March 1, at St. John's Episcopal Church, in Passaic. In the riots of the trolley road employes in Brooklyn, several years ago, Major Holmes saw much active service.

=**Warren Scott Sillcocks**, who died in Brooklyn, New York, on February 9, was a native of New Brunswick, N. J. In 1874 he retired from the jewelry trade and organized the Celluloid Novelty Co., which afterward was merged into The Celluloid Co. (Newark, N. J.) He was a director in the latter company at the time of his death.

=**Vernon Bickford**, who had been for thirty-six years a foreman for the Boston Rubber Shoe Co., died on February 28. He was a brother of Erskine F. Bickford, managing director of the Boston company.

=**Joseph W. Smith**, who died at Newton, Massachusetts, on March 21, in his sixty second year, was president and treasurer of the Smithmade Suspender Co., a business which he had conducted with success for more than thirty years.

=**Henry C. Dimond**, of the firm of H. C. Dimond & Co., Boston, rubber stamp manufacturers, died on March 1, in his six-

tieth year. He had been in the stamp trade about twenty-five years. He made many inventions connected with rubber hand stamps, and invented the life line pistol, for the throwing of the line from a life boat to the vessel needing its assistance.

## THE LATE CHARLES FALES PARKER.

**AS** mentioned in the brief notice of the death of Charles F. Parker, in the last INDIA RUBBER WORLD, he was well known to the rubber shoe interests through his connection with aluminum lasts and trees, which he invented, and which were very favorably received, although not as yet widely adopt-



CHARLES F. PARKER.

ed. He was also proprietor of the Metal Last and Tree Co. (Boston). He died at his home in Somerville at the age of 76 years and 6 months, and, despite his age, was vigorous and active to the end. He knew the shoe business from the bench up. Born at Holliston, Massachusetts, in 1826, he was the son of John Parker and Mary Ann (Fales) Parker, both members of fami-

lies well known in the early shoe trade. Charles Parker's first employment was that of a cutter in the factory of Kimball & Robinson, at Brookfield. About 1850 he went to Boston as a salesman for the same firm, and later became a partner. When the civil war began he was representing his firm in the West, and was at Toledo, Ohio, when the first call for volunteers was made. He realized at once that shoes would be needed by the quartermaster's department, and within forty-eight hours had a contract for 5000 pairs of army shoes—probably the first contract of the kind made on account of the war. During the whole period of the war Mr. Parker was never without a big order from the government, and he took the last order as well as the first. In 1864 he established the firm of Charles F. Parker & Co., with factories at Marlboro and Brookfield, and store at No. 106 Pearl street, Boston. Later the firm became Parker Brothers & Cassel, and for nearly twenty years he manufactured the well known "Solidity Shoe repairing outfits." Mr. Parker married Miss Julia A. Bingham, of Milwaukee, Wisconsin, and his family consisted of three daughters, two of whom, with the widow, survive. For years he was a leading member of the Shawmut Avenue Baptist Church, of Boston, which afterwards merged with the First Baptist Church, the pioneer society of the denomination in that city. For years he was also a prominent worker at the Harvard Street Baptist Church where he led a large class of young men, many of whom became successful in life, and all retaining a warm spot in their hearts for their teacher. Mr. Parker had hosts of friends in the trade with which he had been connected so long, and he commanded the respect of all who knew him. Mr. John H. Parker, a well known Boston manufacturer of specialties in rubber and other footwear, is a brother of the deceased.

## NEWS OF THE AMERICAN RUBBER TRADE.

## MILWAUKEE TO HAVE A RUBBER FACTORY.

THE Milwaukee Rubber Works Co. was incorporated on March 3, 1903, under the laws of Wisconsin, by Patrick Cudahy, John F. Burke, and G. Stanley Mitchell—all of Milwaukee—with \$200,000 capital. Contracts have been let for factory buildings on a five acre site purchased by the company at Cudahy, a suburb of Milwaukee on the main line of the Northwestern railroad. There is to be a two story main building, 40 × 200 feet, and three wings, each of one story and 45 × 150 feet. The machinery has been bought, including a 350 HP. engine and boilers of 450 HP. capacity. The company intend to manufacture a general line of mechanical rubber goods, including vehicle and cycle tires, and all kinds of mold work. The location is in the heart of a large mining district, calling for extensive supplies of rubber, besides which it is a good general trade center for a number of rich states. The company expect to be ready to book orders about June 15. The board consists of Patrick Cudahy, G. Stanley Mitchell, Charles T. Burnham, William Becker, John F. Burke, M. R. D. Owings, and George P. Mayer. The officers are:

*President*—G. STANLEY MITCHELL.  
*Vice President*—CHARLES T. BURNHAM.  
*Secretary*—CHARLES W. HARRIS.  
*Treasurer*—HOWARD E. MITCHELL.  
*Assistant Secretary*—GEORGE E. BURNHAM.  
*Superintendent*—F. HASKELL SMITH.

The new company was promoted by Charles A. Rohde, of Milwaukee, and Charles W. Harris, of Akron, Ohio, both of whom are well known to the rubber trade. Mr. Rohde, until recently, sold the output of the Goshen Rubber Works, and Mr. Harris resigned as manager of the factory of the Consolidated Rubber Tire Co. at Akron to start the new enterprise at Milwaukee. Mr. Smith, the superintendent, who is a graduate from the Massachusetts Institute of Technology, was with the Hartford Rubber Works Co. four years in the experimental department, and with The Diamond Rubber Co. three years as assistant to the superintendent.

## PRESIDENT JONES OF THE MANHATTAN RETIRES.

FOR some time Mr. Frank Cazenove Jones, president of The Manhattan Rubber Manufacturing Co. (New York), has been feeling the effects of overwork, and on the advice of his physicians, who prescribe a long rest, he has resigned his official position. The list of officers has been rearranged, therefore, as follows:

*President*—ARTHUR F. TOWNSEND, lately vice president.  
*Vice President*—ELIOT M. HENDERSON, lately treasurer.  
*Treasurer*—J. M. FERRIS, lately secretary.  
*Secretary*—F. L. CURTIS.

The board of directors consists of the above named and William F. Gaston, W. W. Dashiell, Alexander Henderson (superintendent of factories), and E. B. Townsend. The company was incorporated in New Jersey, October 30, 1893, and soon afterward put into operation a new mechanical rubber goods factory at Passaic, New Jersey. Mr. Jones, who previously was a director and manager of factories of the New York Belting and Packing Co., Limited, was elected president and general manager of the company at the beginning, and has since worked continuously and successfully in building it up into one of the leading rubber concerns in the country. Mr. Townsend, who also had been connected with the Belting and Packing company, beginning as secretary and treasurer of the new

company, was elected in October, 1894, to the office of vice president, which he has since held. Mr. Dashiell, named above, was one of the original directors. The authorized capital of the company, under its charter, was \$150,000, of which only \$75,000 was paid in at the beginning. The capital has been increased from time to time, and since October last has amounted to \$500,000.

Mr. Jones was one of the most capable all round manufacturers of mechanical goods in the country. He brought to his task the equipment of a thorough knowledge of chemistry, of mechanical engineering, and unusual business acumen. The following resolution was passed by the board of directors of the Manhattan Rubber Manufacturing Co., when they reluctantly released him from active service:

WHEREAS, Mr. Frank Cazenove Jones, president and general manager and director of this company, has for a long time, by means of ill health and physical disability, been unable to discharge the duties pertaining to this office; and

WHEREAS, There seems to be no likelihood of his immediate recovery; and

WHEREAS, Mr. Jones is unwilling that the affairs of this company should suffer from the fact of his inability to attend to the same, and has consequently tendered his resignation as president, general manager, and director of this company to this board; therefore be it

*Resolved*, That the resignation of the said Frank Cazenove Jones, president, general manager, and director as aforesaid, be accepted, and that the secretary of this board convey to him our heartfelt sympathy in this his time of physical disability.

## REVERE RUBBER CO. EMPLOYEES AT A BANQUET.

THE Revere Rubber Co. (Boston) occupied its quarters at No. 63 Franklin street so many years that it was the only business home of nearly every one of the office employes. When it was announced that they were about to remove to No. 77 Bedford street, a suggestion that the giving up of the old home should be commemorated in some way was received with enthusiasm, and the result was a banquet at the United States Hotel, Boston, on the evening of February 27, attended by thirty of the company's clerks and salesmen. It was arranged by a committee consisting of J. Arthur Wade, Charles A. Case, C. H. S. Wetmore, and A. L. Belcher. There was speeches and stories and a "highamophone" entertainment, and the pleasures of the evening were finished by attendance at the Columbia Theater. The menu was as follows:

"UP RIVER" BLUE POINTS,  
 Mock Turtle a la "Usdarian,"  
 "Old Hickory" Oysters.  
 "Granite" Stuffed Smelts, the herb sauce.  
 Iced Cucumbers, corrugated, Windsor Potatoes, double jacketed.  
 Rubber Neck Turkey, cranberry sauce.  
 "Four Ace" Tenderloin Beef, mushroom sauce.  
 Caucho Potatoes, Green Peas, soft cure.  
 "Eclipse" Shrimps en cases, Newbury.  
 "Idea A la Cashmere" Potatoes.  
 With "A C" Special Roast Beef and Sauce.  
 Charlotte Russe, washed and sheeted.  
 Pommes a la Chateaufort.  
 P. G. Hafe's Ice Cream.  
 Frozen Pudding, roses, garnished.  
 Assorted Cake, but at back, Little Giant Fruits,  
 Harlem Water Wafers, Fine Para Cheese.  
 Grand Point Coffee.

The clerks from the Chelsea office appeared with tags in their button holes, to prevent the possibility of their being lost



during their visit to the city. Altogether the occasion proved so delightful to those present that already they speak of it as their First Annual Banquet, and doubtless it will become a regular institution. A record of the banquet, which has been printed handsomely, in pamphlet form, is certain to be treasured by all who shared in it.

#### APSLEY RUBBER CO., HUDSON, MASS.

CONTRACTS have been awarded for an addition to the boot and shoe mill that will double its capacity. The addition will adjoin the main building at the east end, and will be of brick, six stories, 62×80 feet. This is to be completed in July. The machinery will be supplied by the Farrel Foundry and Machine Co. The Apsley company have been putting in two additional elevators and have more than doubled their steam plant, putting in a 400 HP. boiler. They have added seven new mills with interchangeable calenders and washers, and are making a number of other improvements which, when completed, will afford a capacity for 15,000 pairs of rubber boots and shoes per day, in addition to their mackintosh and rubber clothing business. The company manufacture their own packing boxes and have their own last factory (the Millay Last Co.) The Hon. L. D. Apsley, president of the company, began the manufacture of mackintoshes at Hudson in 1883. The manufacture of rubber footwear was begun in April, 1900, and at once became an important and successful branch of the company's business.

#### NATIONAL INDIA RUBBER CO., BRISTOL, R. I.

BUSINESS continues very brisk in every department of the factory. The insulated wire department has been run at night for some time past, in order to turn out the work required of it. It has been decided to remove the insulating department from its present location to the east end of the brick building at the north side of the plant, where three floors will be occupied. Additional machinery is to be installed and it is expected that 150 hands will be employed in this department after the changes have been made.

#### THE WESTERN RUBBER CO. (GOSHEN, INDIANA).

THE plant of this company, although not the largest in their line, is capable of turning out a very large amount of high priced work. The buildings consist of a large three story brick structure, the ground floor of which is used for a mill room, and which has a washer, two large grinders, a calender, a tubing machine, and several presses. In the rear of this is the engine and boiler house, and at one side a dry house for rubber and compounding material. The plant is close to the tracks of the "Big Four" railway.

#### REESE WATERPROOF MANUFACTURING CO.

A TRACT of six acres in Oakland, California, has been acquired by this company, mentioned in THE INDIA RUBBER WORLD of September 1, 1902, as having been incorporated under California laws, with \$200,000 capital, to waterproof goods by a newly patented process. It is reported that an extensive factory is to be erected. The business office of the company, No. 1571 Seventh street, Oakland, is in charge of the vice president and general manager, J. W. Phillips.

#### CONCORD JUNCTION RUBBER WORKERS' UNION.

RUBBER Workers' Union 9856, A. F. of L., at Concord Junction, Massachusetts, on December 23, 1902, reorganized as Local No. 2, of the new International Amalgamated Rubber Workers' Union of America, affiliated with the American Federation of Labor, with Clarence E. Akerstrom, president. On February 25, 1903, the Concord Junction union adapted a resolution condemning the Boot and Shoe Workers' Union and commending the Knights of Labor, in connection with labor troubles in the leather shoe factories at Lynn. On March 2, 1903, Clarence E.

Akerstrom, as national secretary-treasurer of the Amalgamated Rubber Workers, wrote a letter to the general president of the Boot and Shoe Workers, stating that the resolution of the Concord Junction union—his own Local—was "an illegal act," inspired by a few "radical, irresponsible people who are trying to disrupt that local"; that the four principal officers of the local had resigned in consequence; and that "the local was suspended and its charter revoked this evening."

#### AFFAIRS OF THE CRUDE RUBBER CO.

JUSTICE LACOMBE, in the United States circuit court at New York, on March 10, signed an order appointing John J. Townsend a special master to take proof and report as to what persons are entitled to share in the distribution of funds coming into the hands of the receivers of the Crude Rubber Co. The creditors were allowed until April 21, 1903, to file their respective claims at No. 20 Nassau street, the office of the receivers. An application to extend the time was denied.

#### THE KEMPSHALL MANUFACTURING CO.

GOLF ball patents have been issued recently to Emmet Schultz, of Arlington, New Jersey, assignor to the Arlington Co., of the same address. The Arlington Co. was incorporated January 31, 1899, under New Jersey laws, the papers being signed by Henry S. Chapman, Edward N. Crane, Emmet Schultz, L. Stoughton Ellsworth, and R. H. Ensign. THE INDIA RUBBER WORLD is informed that "All patents of The Arlington Co., on golf balls, etc., belong to the Kempshall Manufacturing Co. [Arlington, N. J.], and goods made under said patents will be put out by the Kempshall company." Messrs. Chapman and Crane, mentioned above, are now officers of the Kempshall Manufacturing Co.

#### THE NEW YORK FIRE HOSE FRAUD CHARGES.

JUSTICE SCOTT, in the New York supreme court, on March 12, dismissed the demurrers to the indictments against former Fire Commissioner John J. Scannell and William L. Marks. They were indicted for conspiracy to defraud the New York fire department while Scannell was commissioner. This decision means that they must stand trial. The indictments were filed on November 22, 1901, and charge the defendants, among other things, with awarding contracts for fire hose to others than the lowest bidders. Further details appeared in THE INDIA RUBBER WORLD August 1, 1901 (page 336) and December 1, 1901 (page 90).

#### LARGE FIGURES IN A LAWSUIT OVER TIRES.

THE National India Rubber Co. on March 11 filed two suits in the Rhode Island supreme court, at Providence, against the Rubber Goods Manufacturing Co., for the aggregate sum of \$160,000. In the first suit the plaintiff corporation alleges that on November 9, 1899, it became a party to an agreement involving the transfer, to the New York brokerage firm of F. S. Smithers & Co., acting as agents of the Rubber Goods Manufacturing Co., of the special machinery in the factory used in making rubber tires, and the stock of tires and tire material then on hand. The consideration was \$10,000 for the machinery and \$49,000 for the material, payment being accepted in the form of 590 preferred shares of the Rubber Goods Manufacturing Co. at par—or \$59,000—with a guarantee that within three years these shares would be redeemed, besides paying dividends at the rate of 7 per cent. per year. On November 8, 1902, the last business day of the three years, the 590 shares, it is alleged, were tendered to the Rubber Goods Manufacturing Co., which corporation refused to pay \$59,000 for the same. Whereupon the National company sues, and lays its damages at \$100,000.

In the second suit, the complainant alleges that, following

the above mentioned sale of machinery and tire material, it was agreed between the National and the Rubber Goods companies that the former should sell the tires, and work up the material on hand, and continue thereafter to make and sell tires for the account of the defendant corporation. The National company worked under this arrangement, it alleges, until instructed to stop, at which time the expenses incurred, in excess of receipts from the sale of tires or otherwise, had amounted to \$31,893.78. The amount claimed as damages in this suit is \$60,000.

#### FAILURE IN THE ELASTIC WEBBING TRADE.

DRESSER & CO., doing a wholesale commission business in hosiery, silks, and webbings, Nos. 15-17 Greene street, New York, made a general assignment on March 7, and later in the day a petition in bankruptcy was filed against the firm by an attorney for several creditors. The liabilities were stated at \$1,250,000, and the nominal assets at \$750,000, with actual assets much smaller. The head of the firm is Daniel Le Roy Dresser, until lately president of the Trust Co. of the Republic and the Merchants' Association of New York. Mr. Dresser's first business venture was made as selling agent in New York for the E. Read Goodridge Manufacturing Co. (Newport, R. I.), makers of elastic webbing. In 1891 he organized the firm of Nealon, Goodridge & Dresser, succeeded in 1894 by Dresser & Goodridge, which dissolved in 1896 after the Goodridge factory was closed by the sheriff (May 19), under attachments from creditors, including Dresser & Goodridge, claiming \$150,000 for advances on goods. At a sheriff's sale the stock and fixtures at Newport were bought by Mr. Dresser for \$50,000. Early in 1897 the Naragansett Web Co. was organized in Newport, and has since been engaged successfully in operating the plant referred to. Mr. Dresser is a director in the Naragansett company, and also in the American Tubing and Webbing Co. (Providence). Mr. Dresser for a while had another rubber goods account, beginning in 1896, when he was selling agent for the Goodyear Vulcanite Co.'s combs. Mr. Dresser's partner (since 1897), Charles E. Riess, said: "This failure did not result from any decline in the firm's business. We have been making a net profit right along of \$60,000 to \$80,000 a year. Naturally, I was surprised to learn that it was necessary for us to make an assignment." It is understood that the firm's inability to meet its obligations was due to its bank credits becoming impaired on account of some of Mr. Dresser's outside business ventures. He was, for instance, interested in the underwriting of the United States Shipbuilding Co.—an undertaking not altogether successful. Judge Holt, of the United States district court, in New York, on March 11, signed an order in the case of Dresser & Co., authorizing the receivers to continue the business, not exceeding forty-five days. There are large orders in hand for goods to be made, including orders amounting to \$100,000 to be filled by the American Tubing and Webbing Co.

The American Tubing and Webbing Co. (Providence, Rhode Island) on March 9 was placed in the hands of a temporary receiver, on application of Maurice H. Cook, a stockholder. The temporary receiver was Lorin M. Cook, father of the petitioner. On March 14 Lorin M. Cook and Willard C. Perkins were appointed receivers. It is alleged that the treasurer of the corporation issued drafts drawn on Dresser & Co., which were accepted by the latter for their accommodation, and not for the business of the corporation, which drafts are now maturing, and by reason of which it is alleged that the corporation is insolvent while the business is prosperous. The appointment of receivers was for the purpose of allowing the business to be conducted without liability of attachment. The capital of the concern is \$276,000. The assets are reported at \$115,596 over the liabilities. The factory has been employing 250 hands.

#### BICYCLE REORGANIZATION.

PAPERS of incorporation for the Pope Manufacturing Co. were filed under the laws of New Jersey on February 27, the object of the company being the manufacture of bicycles. The capital stock is \$22,500—of which \$2500 in 6 per cent. cumulative first preferred shares and \$10,000 each in 5 per cent. non-cumulative second preferred and common shares. The incorporators are Mountford Mills, George E. Hargrave, and Dunlevy Milbank, but it is understood that the leading spirit in the enterprise is Colonel Albert Augustus Pope, the foremost figure in the American bicycle industry. It is assumed in the trade that the new company will acquire the assets of the American Bicycle Co. and its subsidiary, the American Cycle Manufacturing Co., when details have been arranged so that the property can be transferred from the receivers to the new organization. It is common report that Colonel Pope, who had large holdings in the American Bicycle Co., practically dictated the reorganization plans now being carried out, and that he is confident that room exists for a successful bicycle industry. It is pointed out that in the year before the combination of the bicycle industry as the American Bicycle Co., the Pope interest made a net profit of more than \$700,000. Colonel Pope for a number of years owned the Hartford Rubber Works, first for supplying single tube tires for his "Columbia" bicycles, and later for supplying tires to the trade as well. He parted with this holding in connection with the sale of his bicycle interest to the bicycle trust.

#### THE COMMERCIAL CABLE CO.

THE unissued capital stock, amounting to \$1,666,700, has been issued lately (to be applied towards the company's investment in the Commercial Pacific Cable Co.), and on March 3 was listed on the New York Stock Exchange, making the total amount of capital issued and listed \$15,000,000. The report presented at the annual meeting of shareholders in New York on March 2 showed gross earnings for 1902 from the Atlantic cable and land line (Postal Telegraph) systems, of \$10,208,292.71. Interest on 4 per cent. debentures amounted to \$800,000; dividends (8 per cent.), \$1,066,664; added to reserve fund, \$350,000 (raising it to \$4,934,510.23); added to reserve for insurance of stations, apparatus, etc., \$150,000 (raising the fund to \$860,209.60); balance of revenue account, \$147,529.19. There was expended during the year, for land line reconstruction, repairs, and reserve for extensions, \$1,806,015.06. The new stock will share in the dividend for the first quarter of 1903. President Charles H. Mackay said, in submitting the report: "After the completion of the Commercial Pacific Cable it is expected that the earnings of the company will be materially increased."—At a special meeting of the shareholders, also held on March 3, a proposition to increase the capital stock from \$15,000,000 to \$25,000,000 was approved.—Dividend No. 55—a quarterly dividend of 2 per cent.—will be due on April 1 to stockholders of record on March 20.

#### PITTSBURG ASBESTOS REDUCTION CO.

THIS company was incorporated on January 29, under Pennsylvania laws, with \$1000 capital, to control a process for the treatment of asbestos invented by John F. Green, lately of Baltimore, and its application to the electrical industry. Mr. Green advises THE INDIA RUBBER WORLD: "We have made many admixtures of rubber and asbestos for insulating purposes, and are enabled to get results with our purified asbestos greater in every respect than the admixtures heretofore made with the articles named. We claim that after we have processed our asbestos, and have removed the metallic oxides, a large percentage of lime and magnesia, we have a new product, commercially, in asbestos. As we get a larger percentage in any given quantity of asbestos because of the removal of foreign matter,



this purified asbestos having great capillary attraction, and more hygroscopic conditions, it will more readily unite with the density of rubber than any other asbestos, which enables us to make a more perfect mass, and we find that it is one of the best, if not the best article to go into the vulcanizer with rubber. We have had great results along electrical insulation, and yet see a greater field in many uses to which asbestos is put in the rubber industry, namely: the admixture of this purified asbestos with rubber will make a lighter compound, and yet equally as good as at present, for all articles for toilet use, and in fact all the other small wares. We also think it possible to make various colored rubbers by the use of our prepared asbestos." Mr. Green is manager of the new Pittsburgh company, and others interested are Charles K. Hill, J. Q. H. Smith, and H. C. Van Tine, all of Pittsburgh.

#### OIL CLOTH PRICES DEPEND ON RAW MATERIAL.

ALL previous prices of the Standard Table Oil Cloth Co. have been withdrawn, in connection with which the sales agent for the company, at New York, is quoted as follows: "On account of the increased demand for oil cloths, the Standard Table Oil Cloth Co. have withdrawn their quotations on their product, as they do not desire to be in a position where they would be obliged to turn down any speculative orders. We are supplying the trade with what they need and will take care of all our customers. We will not issue any price list until some time later, and whether these prices will be higher depends entirely on the condition of the raw material market. The officers of the company as a whole are opposed to any advance." The prices withdrawn by the Standard Table Oil Cloth Co. are as follows (per piece):

5-4 Mosaics.....	\$1.80	5x6 Brocade covers .....	2 25
6-4 Mosaics.....	2.40	5x6 Black and wood covers..	2.40
5-4 White marbles .....	1 95	48-in. Flannel back white	
5-4 Printed white glazed...	1.95	glazed and marbles.....	3.50
6-4 White marbles.....	2.55	5-4 Turkey red back mosaics	2.30
6-4 Printed white glazed..	2.55	5-4 Turkey red back marbles	2 45

#### UNITED AND GLOBE RUBBER MANUFACTURING COS.

GROUND was broken on March 13 for a three story brick and stone addition, 86 X 40 feet, to the plant of this company at Trenton, New Jersey. Contracts have been let for the most modern machinery and equipment. The new structure will be used exclusively for making hose and belting, and will allow for the employment of 50 or more additional hands.

#### NOT A RUBBER STAMP FACTORY.

RESPECTING a recent report on a large rubber stamp factory at Lodge, Northumberland county, Virginia, Mr. Benjamin Chambers, of that place, advises THE INDIA RUBBER WORLD that rubber stamps are not made at the place named. His specialty is steel types and steel stamps. Mr. Chambers has been for 35 years contractor for such stamps used in the United States postal service, and makes all the stamps used for postmarking letters and cancelling postage stamps on letters. The machinery department of his plant recently has been considerably enlarged.

#### GROWTH OF A MINNEAPOLIS JOBBING HOUSE.

THE Plant Rubber Co. (Minneapolis, Minnesota) have signed a lease for ten years for a building to be erected on First avenue N, between Third and Fourth streets. During the last three years the business of this company has increased very rapidly, so that the present quarters, running from No. 210 Nicollet avenue to No. 211 Hennipen avenue, have been outgrown. The firm expect to get into the new building in August next. This will be 43 feet front and 132 feet deep, five stories, and containing about 30,000 square feet of floor area. This business was established eight years ago as the Nott &

Plant Rubber Co., to do a retail business. A year later F. W. Plant moved to Minneapolis from New York city, assuming the management and changing the business from retail to wholesale. Within another year Mr. Plant purchased the interest of W. S. Nott—now at the head of W. S. Nott Co. (Minneapolis)—since which time the business has been known as the Plant Rubber Co., with F. W. Plant president. They are manufacturers of leather belting and mackintoshes, and jobbers of rubber goods of all kinds. They have offices at Duluth and Seattle, with ten traveling salesmen employed.

#### TRADE NEWS NOTES.

THE Revere Rubber Co. have removed their Boston offices from No. 63 Franklin street to No. 77 Bedford street, where they have more room, in a modern office building, provided with every convenience for officers and employes, and for the display of their full line of goods.

=The strike in the rubber shoe factory of the Hood Rubber Co., at East Watertown, Massachusetts, which began nearly two years ago, has been officially declared at an end, the company agreeing to take back the strikers as places can be made for them. Most of the strikers, however, have gone elsewhere and secured employment.

=The annual meeting of shareholders of the Consolidated Rubber Tire Co. will be held in Jersey City on Monday, May 4.

=John H. Merrill has taken charge of the carriage tire department of the Manhattan Rubber Manufacturing Co. (New York). He was formerly manager of the Chicago branch of The India Rubber Co. (Akron, Ohio).

=Charles S. Prosser has been appointed general sales agent of the Peerless Rubber Manufacturing Co. Mr. Prosser is fully qualified for such a position, having been five years in the factory, and five years as traveling salesman for the company.

=Leonard J. Lomasney has been appointed sales manager of the Republic Rubber Co. (Youngstown, Ohio). He is a son-in-law of Walter Arms, the new president of the Republic Rubber Co., and was formerly with the Peerless Rubber Manufacturing Co.

=Lewis D. Parker, of Hartford, president of all the tire manufacturing companies controlled by the Rubber Goods Manufacturing Co., spent last month in Chicago, at the Morgan & Wright factory, to allow J. C. Wilson, who is in charge, to take a much needed vacation.

=A. H. Brown, purchasing agent for the Boston Rubber Shoe Co., has been appointed assistant purchasing agent for the United States Rubber Co., and will be connected hereafter with their general offices, in New York.

=Quaker City Rubber Co.—Charles A. Daniel, proprietor (Philadelphia), announce the appointment, as manager of their Chicago branch, of J. T. Moore, who has been with the firm several years and has had much experience in the rubber and packing business. He succeeds as manager in Chicago S. F. Denny, whose new connection at Detroit, Michigan, has been mentioned in this paper already.

=W. Heath Kirkpatrick, identified for ten years past with the rubber tire trade, first with the American Dunlop Tire Co., and later with that company and the Hartford Rubber Works Co. in conjunction, has become general sales manager for the Peerless Motor Car Co., at Cleveland, Ohio.

=The machinery was started at the factory of the new Sweet Tire and Rubber Co. (Batavia, New York) on February 24.

=The Vulcanized Rubber Co.'s factory, at Morrisville, Pa. is reported to be well supplied with orders. They are mentioned as being especially busy on telephone receivers and appliances.



=The European depôt of The B. F. Goodrich Co., at 7, Snow Hill, London, E. C., have taken the agency for Bailey's rubber massage rollers, together with the C. J. Bailey & Co. line of patented specialties, a large shipment of the goods having just gone forward. The firm of E. W. Pidgeon & Co., Limited, of Christchurch, have taken the agency for New Zealand.

=The Hanover Rubber Co., which recently started in the waterproofing business at Greenpoint, Brooklyn, New York, has gone out of business.

F. B. McIlroy, Chicago manager of the Trenton Rubber Manufacturing Co., is on a business trip West, visiting the different agencies of the company. His trip will extend to the Pacific coast, and from Vancouver to the City of Mexico, Mexico.

=The bill in equity of Charles R. Flint, of New York, seeking to hold Theodore A. Dodge and others personally liable as directors—at one time—of the Boston Woven Hose and Rubber Co. for an unsatisfied judgment for \$22,503 which he recovered against the corporation in June, 1901, was dismissed in the superior court at Boston on October 23, 1902 [see THE INDIA RUBBER WORLD, November 1, 1902—page 62.] Appeal having been made to the supreme court, that body on February 28 last affirmed the decree of the superior court.

=Fire at Marion, Indiana, on the night of February 6, caused a loss to the Marion Rubber Co. (rubber shoe jobbers) of \$10,000, which was covered by insurance.

=Clark-Hutchinson Co., Boston and New York shoe jobbers, have added the sale of the "Goodyear-Glove" line to their rubber department.

=The Cambridge Manufacturing Co. are mentioned as having leased a vacant factory plant at Southington, Connecticut, to be used in making golf goods, including a new golf ball in which W. T. Dale is interested.

=The Neptune Rubber Co. (New York) who have been in the retail mackintosh trade for six years, are closing out their stock at No. 295 Grand street, and will remove to Nos. 23-25 Lispenard street, where they will engage exclusively in manufacturing for the wholesale trade.

=Morris & Co. (Yardville, New Jersey), manufacturers of the Morris spring-bottom duck baskets, are in receipt of a repeat order for a large number of duck mill baskets from an important textile mill. They have recently supplied the Ashley & Bailey Co. (Paterson, N. J.) with a large number of bags for shipping silk and are constantly filling orders for this class of trade.

=The Goodyear Rain Coat Co. have again closed out their stock of rain coats and mackintoshes at "forty cents on the dollar." This time it happened in Boston, during the week of March 9-14.

=August Belmont and Charles R. Flint, stockholders and creditors of the Safety Bottle and Ink Co. (Jersey City, New Jersey), on March 16 secured an order in chancery directing that concern to show cause why a receiver should not be appointed. The assets of the company are said to be \$53,000 and the liabilities \$99,000. Messrs. Belmont and Flint are equal creditors in \$77,250 of the indebtedness. The company was organized in March, 1895, with \$250,000 authorized capital. It has a \$10,000 plant in Jersey City which the complainants allege has been operated at a loss of \$96,000.

=Mr. John H. Flint, treasurer of the Tyer Rubber Co. (Andover, Massachusetts), has been spending the latter end of the winter in the South.

=Mr. Paul N. Towner, of the firm of Towner & Co., jobbers of Rubber goods at Memphis, Tennessee, was a visitor to New York and Boston during the latter part of March.

=Edward H. Garcin has taken charge of the New York office of the Trenton Rubber Manufacturing Co., at No. 35 Warren street, and is giving special attention to the development of the company's export trade—a branch in which they have been very successful.

=W. R. Macdonald has become connected with the Enterprise Rubber Co., and will sell "Candee" and "Federal" brands of rubber footwear for them, with the state of Massachusetts as his territory. Mr. Macdonald was in employ of the Stoughton Rubber Co. up to the time of the discontinuance of their rubber shoe department, after previously having been for years with the Boston Rubber Shoe Co.

=The Methuen (Mass.) Rubber Co., manufacturers of insulating specialties, have leased the Swain factory in their town and ordered additional machinery, on account of the growth of their business.

=The Milford Rubber Co. (Milford, Massachusetts), waterproofers for the trade, have decided to add to their business the manufacture of garments.

=The salesmen of the Lambertville Rubber Co. (Lambertville, New Jersey) have started for their respective localities for the season. The company anticipate a busy year for 1903 in all different branches. Thomas Crowley, superintendent of the boot and shoe department, is pushing his patent rubber heel boot, and says the sales last year amounted to nearly 2500 pairs. A. T. Schermerhorn is meeting with success in pushing his patent sole shoe.

=During the winter's coal famine all the employes of the Mercer Rubber Co. (Trenton, New Jersey) who so desired, were supplied with soft coal from the company's stock at \$5 per ton. This action averted a serious famine among the workmen and was greatly appreciated.

=Two hundred and seventy shares of the Seamless Rubber Co. were offered at sheriff's sale, at New Haven, Connecticut, on March 31, to satisfy a court judgment of \$22,630, against Earle Brothers (New York), in favor of the New York Commercial Co., a result of a suit over a consignment of crude rubber which, begun in 1896, has gone through many stages up to the supreme court of Connecticut.

=The factories of the Boston Rubber Shoe Co. were closed for stocktaking on the two last days of March, the usual spring vacation being postponed on account of the great number of unfilled orders.

=Patrick J. O'Connor, of Naugatuck, Connecticut, was arrested recently on a charge of using the mails fraudulently. He is alleged to have advertised to sell rubber boots of any size at \$1 a pair, and when a dollar was sent to him he shipped miniature boots, such as are sold for toys or ornaments.

=Twelve small boys were arrested recently for the theft of \$400 worth of old rubber from a freight car at Buffalo, New York, and three junk dealers, alleged to have bought the rubber from the boys, were arrested on the charge of receiving stolen property.

=The regular quarterly dividend of 1½ per cent. on the preferred stock of the American Chicle Co. and the monthly dividend of 1 per cent. on the ordinary shares, is payable on April 1, at New York.

=Trenton Local No. 4, of the International Amalgamated Rubber Workers' Union of America, has been organized at Trenton, New Jersey, with Julius Kohlenberger, president; E. S. Decker, vice president; James O'Donovan, recording secretary; Walter Sigley, financial secretary; and John O'Connell, treasurer. Local No. 1 exists in Chicago, No. 2, at Concord Junction, Massachusetts, has been closed, and No. 3 is at Cambridge, Mass.



## A \$300,000 TIRE SUIT.

SUIT has been filed by the New Brunswick Tire Co. against the Rubber Goods Manufacturing Co., claiming damages in the sum of \$300,000. It is alleged by the complainants that in 1889 an agreement was entered into by which their real estate and manufacturing plant at New Brunswick, New Jersey, were to be transferred to F. S. Smithers & Co., brokers, of New York, acting as agents for the Rubber Goods Manufacturing Co., for \$100,000, to be paid for in preferred stock of the latter concern, at par. The transfer also included raw material and manufactured goods, inventoried at \$118,000 additional. The nature of the suit, and of the details leading up to it, are similar to those reported in another column in relation to the suit filed against the same defendants by the National India Rubber Co.

## THE SIEMON HARD RUBBER CORPORATION.

THE incorporation of this company at Bridgeport, Connecticut, was mentioned in our issue of March 1, since which time their plant has been put in operation for the manufacture of insulation goods from a special material of high heat resisting qualities. It is understood that the company have booked an encouraging number of orders. The officers of the company are: Carl F. Siemon, president and treasurer; Herbert L. Smith, vice president and superintendent; John Taylor, secretary. Mr. Siemon was formerly associated with the Dickinson Hard Rubber Co. (Springfield, Massachusetts) as manager and superintendent, a position which he held for five years. The heads of departments in the new company are men who have been associated with Mr. Siemon for a number of years.

## THE ALLING RUBBER STORES.

NOYES E. ALLING, who for a number of years had been engaged in selling rubber goods at Bridgeport, Connecticut, under the name Alling Rubber Co., on March 4 sold his interest in that business to the Alling Rubber Co., of New Haven, incorporated under Connecticut laws, May 9, 1901, with \$6,000 capital. At the same time the capital stock of the corporation was increased to \$18,000, all paid in. This company now owns the New Haven store, established in 1901, and the Bridgeport store. The officers are: Noyes E. Alling, president; Arthur E. Alling, secretary and treasurer; Ernest M. Jaycox, assistant treasurer. The Stamford Rubber Co., of Stamford, is a separate corporation with \$4100 capital. Noyes E. Alling is president and Clarence E. Alling secretary and treasurer. The Alling Rubber Co., of Norwich—the parent house in this chain of stores—is owned by Wilbur S. Alling. The Alling Rubber Co., of Hartford, is a copartnership firm, consisting of Noyes E. Alling and Amos P. Mitchell, who purchased and succeeded the business of the Crown Rubber Co., in December last.

## THE MUNGER AUTOMOBILE TIRE CO.

W. HOLT APGAR, who was appointed receiver for this company in November, 1902, acting under an order of chancery, will offer the effects of the company at public sale early in April, the date for which has not been fixed. The receiver's inventory places the assets of the company at \$5000, consisting of machinery, fixtures, and raw material. One of the principal creditors is the Trenton Rubber Manufacturing Co. The Munger company was incorporated in April, 1902.

## ASBESTOS INTERESTS.

A PARTY representing the New England and Canadian Asbestos Co., a Maine corporation, the capital of which is held mainly around Fall River, Massachusetts, is now inspecting the asbestos properties acquired by the company in Canada. The party is accompanied by Professor T. N. Dale, of the United States geological survey, who is to supply a technical report. The capital of the company is \$1,500,000. G. Frank Allen is

president, F. E. Hathaway treasurer, and James H. Waring secretary—all of Fall River. Fred L. Smith, of Providence, R. I., and late of the Byfield Rubber Co., is a member of the board. The lands owned are in Broughton, Beaver, and Black Lake, province of Quebec, Canada. The company originally was interested in the asbestos mine at Eden, Vermont, which proved a failure.

## UNITED STATES RUBBER CO.

THE fiscal year of the company, which ended on March 31, is generally understood to have been a very favorable one, as regards the volume of business done. The factories have been busily engaged throughout the year, and continue so, with large orders ahead. The annual meeting is due on Tuesday, May 19.—The following table represents the transactions in the company's shares on the New York Stock Exchange since our last report:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Feb. 20	4,330	18 7/8	17 1/4	3,210	55 3/4	54
Week ending Feb. 25	1,353	17 1/2	17	555	54	53 5/8
Week ending Mar. 7	2,000	17 3/4	15 3/4	610	53 3/8	53
Week ending Mar. 14	1,993	16 1/4	15 1/8	1,415	52 1/2	51
Week ending Mar. 21	900	16 1/4	15 1/4	548	53	52
Week ending Mar. 28	1,300	15 3/4	15	510	53 1/2	51 1/2

## RUBBER GOODS MANUFACTURING CO.

THE sixteenth regular quarterly dividend of 1 3/4 per cent. on the preferred shares, declared out of the company's earnings, was payable on March 16.—The fourth annual meeting of shareholders will be held at the registered offices of the company, in Jersey City, on Tuesday, April 14.—Recent transactions in the company's shares on the New York Stock Exchange have been as follows:

DATES	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Feb. 20	17,650	30	28	1,730	84 1/2	83 1/2
Week ending Feb. 28	4,542	28 1/2	27	1,000	84	83
Week ending Mar. 7	6,560	25	25 3/4	1,160	83	79 1/2
Week ending Mar. 14	3,815	26 3/4	25	800	79	78
Week ending Mar. 21	2,222	26 1/2	25 1/2	1,092	79	78
Week ending Mar. 28	1,246	26 1/2	25	510	78	77

## A RUBBER FACTORY FIRE BRIGADE.

THE Eureka Fire Hose Co. have organized a factory fire brigade, composed of their employes, for the protection of their large plant at Jersey City, New Jersey, the "Rules and Regulations" governing which are printed in a neat pamphlet, a copy of which has been sent to THE INDIA RUBBER WORLD. This contains considerable data of interest to manufacturers generally, and the publication as a whole is a model one. The organization referred to is to consist of a chief, fire marshal, engineer, and six battalions, with a hose company, hook and ladder company, salvage corps, and the entrance guard.

## MACHINERY BELTING FREE FOR TRIAL.

THE offer of Graton & Knight Manufacturing Co. (Worcester, Massachusetts), to send, free of charge, one of their superior oak tanned belts to any manufacturer who would like to test it, is attracting a good deal of favorable attention. The reputation of this fine old house is a guarantee of the excellence of their belting, and that they will in the minutest respect do exactly as they agree. Any of our readers who are interested in securing the best of belting at the lowest possible cost, would do well to write immediately to the Graton & Knight Manufacturing Co., accepting their offer as above.

## THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The property of the People's Hard Rubber Co. was sold at public auction on March 16, by James W. Hoffert, assignee, and all the litigation growing out of the sale of the majority of the stock to Fritz Achelis and the subsequent assignment has been settled. There remains the filing in the probate court of the assignee's final account to make the People's company only a memory. After the hearing of the exceptions to the inventory made by the appraisers appointed directly after the assignment, which certain stockholders filed, had continued for three days before Judge Pardee, a settlement was reached on March 2. The exceptions were withdrawn and simultaneously the suits brought by the minority stockholders claiming damages because of the assignment were dismissed. The papers are endorsed: "Settled; cost paid, no record." It is understood that the minority stockholders received a little more than 55 cents on the dollar for their shares—approximately the same as was paid to the majority holders when the transfer of control was made in November last. There was but one bidder at the assignee's sale and the only bid was accepted. The real estate, appraised at \$49,150, was sold for \$80,000; the personal property, appraised at \$83,737.34, was sold for \$85,000. James F. Giles was the purchaser. No statement has been made as to what will be done with the plant. A part of the machinery has been removed to the Akron plant of the American Hard Rubber Co. [A statement regarding the transfer of control of the People's Hard Rubber Co. appeared in THE INDIA RUBBER WORLD of February 1, 1903—page 168.]

\* \* \*

SOME other litigation of interest to the rubber trade was settled out of court here on March 18, in accordance, it is understood, with an agreement made in New York on the preceding day. Reference is made to three suits filed in May and June 1900, by the Goodyear Tire and Rubber Co., against the Consolidated Rubber Tire Co., the suits being all alike except for the amounts claimed, which aggregated about \$60,000. The Goodyear company's claims were for tires alleged to have been made on contract for the Consolidated company and delivered to them. The Consolidated company alleged that the tires were not made according to specifications; that they contained rubber of an inferior quality; and that their trade had been damaged by the marketing of these tires. They filed a cross petition for \$150,000 damages in consequence. The Goodyear Tire and Rubber Co., partially to secure their claim, attached a large quantity of tires which had been delivered to the Consolidated company at the latter's Akron establishment. Under this attachment the tires were sold, the Goodyear company purchasing them at 31 cents per pound, although the contract price for their manufacture had been 65 cents per pound. Further the Goodyear company garnished money due the Consolidated company from several licensees of the latter, and this case was carried through various steps to the supreme court of Ohio. This case will now be dismissed, as the original cases have been in the court of common pleas. The terms of the settlement are not made public. The court calendar shows: "Settled, each party to pay one half the costs; no record." It is understood from parties to both sides of the litigation, which has been very expensive, that the settlement cannot be called a victory for either side.—The litigation which has thus been ended was entirely apart from the suit of the Rubber Tire Wheel Co. against the Goodyear Tire and Rubber Co., for alleged infringement of the Grant solid tire patent, though the

two suits have been confounded in the minds of some people. Nothing has been done in this patent litigation since the United States supreme court on October 27, 1902, denied the application of the Rubber Tire Wheel Co. for a writ of *certiorari*, which, if granted, would have carried the case from the circuit court of appeals to the supreme court.

\* \* \*

THE tire departments of the Akron rubber factories continue to be exceedingly busy places, and the demand is unabated. There is a slightly increasing call for cheaper automobile tires, but manufacturers say there is no difficulty in maintaining prices. For high grade automobiles only the best tires are wanted, and to obtain them the difference in cost cannot be taken into account. The demand for heavy, solid tires for fire department trucks, engines, and the like is growing. The greater number of such vehicles now manufactured are equipped with rubber tires, and in some cities the municipal officers are causing the steel tires now in use in their fire equipment to be replaced with rubber. The cost, however, deters many from making the change, as they question the advisability of spending money on apparatus which may be more or less out of date. In the purchase of new apparatus rubber tires are now specified by nearly every city in the country.

The proposal of a go-as-you-please automobile race from New York to Chicago, is interesting tire manufacturers. The reliability contests heretofore have been made to test the hill-climbing capacities of different machines more than anything else. The roads selected were generally good, save for the hills. A run from New York to Chicago would encounter very bad roads in places, and would probably prove the most severe test to which tires could be put. "I would like to see the proposed race run, though I doubt if any tire made would come out of it unscathed," said one leading manufacturer.

\* \* \*

THE organization of a manufacturers' association which includes nearly, if not quite, all the large employing concerns of Akron and its vicinity, has been practically completed. The idea is not a new one, such an institution having been in existence at Dayton, Ohio, for some time, and other such organizations having been formed in a number of other cities within a few months past. The association is by no means confined to the rubber manufacturers, although of necessity it would not be a representative Akron organization if it did not include them. The purposes of the association are mutual helpfulness, and it is announced positively that worthy employes have nothing to fear by reason of its organization. The reduction of wages or oppression of labor in any manner is not contemplated, although boycotts and such other methods of intimidation as might be employed in case of difficulty between employers and employes will be guarded against. A secretary, whose entire time shall be given to the work of the organization, will be employed. The officers have not yet been chosen, but an Akron man well acquainted with the needs of employers in general will be the secretary.

\* \* \*

THE Firestone Tire and Rubber Co. are busy night and day in the factory which they equipped recently for the manufacture of their solid sidewire automobile tires. They have placed the solid tires on the drive wheels of a number of automobiles, the front wheels of which were equipped with pneumatic tires—a practice which is becoming common in this section.

As nearly half of Akron's population is identified in some way with rubber, it is not surprising that two men well known in connection with the industry here should be candidates in this spring's municipal election. Joseph Dangell, superintendent



ent of the local plant of the American Hard Rubber Co., has been nominated for councilman-at-large by the Republicans, while Alexander Adamson, proprietor of the Adamson machine shops, is the prohibition candidate for mayor. George S. Whitney, a foreman in the rubber plant of the Whitman & Barnes Rubber Manufacturing Co., has been nominated for councilman from the first ward by the Republicans.

The Diamond Rubber Workers' Relief Association was incorporated on March 17, under the laws of Ohio, with a view to including in its membership practically all the permanent factory and office employes of the Diamond Rubber Co. Members will pay monthly dues, to provide a fund for sick and death benefits, and relief for widows and orphans. H. S. Riddle, master mechanic of the Diamond Rubber Co., has been chosen president. William Metzler is vice president; George Rex, treasurer; John Staub, corresponding secretary; and H. S. Burgner, financial secretary. The employes of The B. F. Goodrich Co. have a similar institution in the White Anchor Relief Association, organized several years ago, and the employes of the Whitman & Barnes Manufacturing Co. likewise have a relief association.

Colonel F. M. Atterholt, of Akron, who is reported to be concerned with negotiations for combining the leading elastic webbing concerns of the country in a new \$5,000,000 company, assures THE INDIA RUBBER WORLD'S correspondent that the details are not yet definite enough to admit of publication. It is reported that some fourteen concerns, with factories located in New York, Connecticut, Rhode Island, and Massachusetts, are regarded as eligible for the proposed combination.

At a meeting of the Alden Rubber Co., on March 19, M. R. Hayne was elected a director in place of E. L. Toy, formerly vice president of the company. Mr. Toy retired from that office at the annual meeting of the company Feb. 4. He has mining interests in Tennessee which will claim his attention.

No definite arrangements have as yet been made for the national convention of the Amalgamated Rubber Workers to be held here in June. The local rubber workers' union will appoint committees, however, in a short time. In the recent Republican primary election W. E. Demming, a member of the local union, was defeated for nomination as councilman in the second ward. It is but fair to state, however, that the ward does not contain a large percentage of voters who are rubber workers.

Rumors are current connecting the name of C. H. Wheeler, former president of The India Rubber Co., with a new rubber factory project at Kent, Ohio (ten miles from Akron), and also with an undertaking for a new factory in Akron. Regarding these Mr. Wheeler said to THE INDIA RUBBER WORLD'S correspondent: "It is too early to talk for publication; I may have some information to impart in a few weeks."

T. W. Miller, treasurer and manager of The Faultless Rubber Co., went to California early in March to spend a month in business and pleasure on the Pacific coast.

The Camp Rubber Co. have purchased the abandoned plant of the Ashland Canning and Preserving Co., adjoining their factory at Ashland, Ohio, and are converting it into a factory for making boxes and cartons for their own use and for the trade. The Camp company are building an addition 50 × 100 feet, to be used as a milling room, and have purchased land on which a still larger addition will be erected later in the season.

The Williams Foundry and Machine Co. have begun the erection of a four-story brick addition, 60 × 40 feet, to their plant. They have been very busy of late in manufacturing regular and special machinery and molds for rubber factories and this, more than any other one thing, makes the addition

necessary, though Mr. J. K. Williams, president of the company, states that the enlarged quarters will be used for a general extension of all lines of their products. C. Franz, for eleven years freight agent of the Erie railroad at Akron, has become associated with the company.

H. B. Camp, president of the Faultless and of the Camp Rubber companies, is a director of the Lake and River Railroad Co., recently organized to construct a railroad from Lake Erie to the Ohio river.

The Diamond Rubber Co.'s reclaiming plant is exceptionally busy this season. They are reclaiming much more rubber for the trade now than formerly.

Mr. R. P. Marvin, secretary of The B. F. Goodrich Co., and Mr. E. C. Shaw, their general superintendent, left on March 9 to spend several weeks in Europe.

Although it is the season when, ordinarily, many young men and women from the surrounding towns and country come to Akron to work in the rubber factories, desirable help continues to be in steady demand. Akron manufacturers are careful to avoid the employment of boys and girls at an age when the law requires their attendance at school.

#### PERSONAL MENTION.

MR. JAMES BENNETT FORSYTH, general manager of the Boston Belting Co. (Boston), is back at his office after a brief illness, looking better in health than he has for months, the many warm congratulations that he is receiving from the whole trade showing in what esteem he is held by all who know him.

—Mr. Thomas G. Richards, superintendent of the Boston Woven Hose and Rubber Co. (Cambridge, Mass.), recently gave a very interesting lecture, illustrated with stereopticon views, on the manipulation of India-rubber as applied to mechanical rubber goods, before the Mechanical Engineering Society, at the Massachusetts Institute of Technology, Boston.

—Mr. William J. Cable, president of the Cable Rubber Co. (Jamaica Plain, Mass.), has purchased a fine residence at Forest Hills, one of the beautiful suburbs of Boston. His brother Samuel F. Cable, has purchased land adjoining and will build on it.

—Mr. Spencer R. Driffeld, president and manager of the Consumers' Rubber Co. (Cleveland, Ohio) was a recent caller at the office of THE INDIA RUBBER WORLD.

—Colonel Samuel P. Colt, Samuel Norris, and Lester Leland, of the United States Rubber Co., made a tour during the month of the mountains in the Carolinas.

—Mr. George A. Alden, founder of the firm of George A. Alden & Co. (Boston), spent the month of March in Florida.

—Dr. Carl Otto Weber, who was summoned to this country to do certain expert work in India-rubber, sailed for England on the *Lucania* the last of February.

—Mr. William L. Adams, a prominent rubber planter of Livingston, Guatemala, was recently married to Miss Mary E. Cuttriss, of New York, the bridal trip being to the country of the bridegroom's adoption.

—Mr. John P. Lyons, advertising manager of the United States Rubber Co. (New York) returned to his office during the last days of March, after an absence of five weeks due to illness with the grip.

—Now that the public are so vitally interested in Mexico, it may be well to remark that the largest line of photographs of scenery and types, and showing manners and customs of the Mexicans, particularly in the "hot country," have been secured by an enterprising American by the name of C. B. Waite, whose address is 1st San Cosme, 8½ Mexico City.

## GREAT TIRE PROMISES THAT FAILED.

THE "wheel and tire manufacturing of the world" do not appear yet to have been monopolized by The International Wheel, Tire, and Rubber Manufacturing Co., as was promised in their prospectus, quoted in part in THE INDIA RUBBER WORLD of November 1, 1902 [page 58]. The factory illustrated in their pamphlet, which was that of the New Brunswick Rubber Co. (later the New Brunswick Tire Co.), has been taken out of the hands of the company with the long name and restored to the former owners. The gentleman who, it was announced, would be manager at the factory, informs us that the persons making the promise to him "placed the promotion of the concern in the hands of sharpers, and they have been made victims in consequence."

The gentleman whose name appears as president in the original prospectus, and who is engaged in the manufacture of ice cream in New York, informs THE INDIA RUBBER WORLD that on accepting a position on the tire company's board, he made an investment in its shares; he then attempted to learn what the company was doing, failing in which he resigned and succeeded in getting his money back. The head of a large stove manufacturing company, who invested at the same time, was not able to draw out his money. The ice cream manufacturer states that the promoters first approached him with a proposition to amalgamate the ice cream business in New York, representing that they controlled \$1,000,000 for investment, and they obtained options on his and other businesses. The ice cream trust failed to materialize, however, and the promoters next proposed to invest their \$1,000,000 in the tire industry.

The International Wheel, Tire, and Rubber Manufacturing Co. had been incorporated under New Jersey laws, with \$3,000,000 capital authorized, and the promoters took this up. H. N. Field & Co., "brokers for the company," No. 180 Broadway, New York, advertised the shares (\$1 par) at 40 cents, guaranteeing a return of 2 per cent. per week, and are known to have made some sales to ladies out of town. It was announced in the prospectus that "*You can borrow upon the certificates of this company as much as you can on real estate,*" and it now appears that, after the purchasers of stock had begun to get dissatisfied, another concern appeared, offering to lend money on the shares—a very small proportion of their face value—and that possession of the shares was thus gained by the parties originally selling them. The purchasers are now without any basis upon which to bring suits.

On March 5 James B. Kellogg, who had been at liberty under \$40,000 bail, pending an appeal from a sentence of 7½ years imprisonment for his part in what is known as "the E. S. Dean swindle," of the "get-rich-quick" class, was arrested in New York, charged with fraudulent use of the mails. One item in the charge was that as "H. N. Field & Co." he unloaded shares of the International tire company, while as "E. Rice & Co." he obtained possession of the shares again, by lending small amounts on them. Somewhat similar tactics were employed in the case of the "Pacific Rubber Co." fraud exposed in these pages last year, and it is not impossible that the same operators were engaged in the latter, which purported to be a rubber planting enterprise.

A hearing in the case of Kellogg, on the affidavit charging him with complicity in the International Wheel, Tire, and Rubber Manufacturing Co. fraud, was set for March 31, in New York. An inquiry made by a representative of this journal, at the former advertised offices of the tire company, was answered by the janitor of the building: "I think all that is abolished now." The office of "H. N. Field & Co." is also closed.

## THE TEXTILE GOODS MARKET.

MARCH has been an eventful month in textile circles. The Cotton Exchange has been the chief center of attraction, and the goods market has reflected the condition of raw material so sensitively that consumers of cotton cloth have greatly restricted their operations, in the hope of a decline in prices all around. At this writing the raw material market is off nearly a half cent from the price one month ago, but for a fortnight prices have not advanced or declined materially.

The Southern spot markets have been exceedingly firm and daily reports from those quarters have encouraged speculators to favor the bull side. The strong statistical position of the staple is still very much commented upon. Each week reduces the visible supply, as compared with the total a year ago, and the mills are steadily consuming an uncommonly large amount of cotton. Prices have been high enough to draw cotton from the south and it is understood that nearly 30,000 bales of low grade cotton are now *en route* to New York for delivery on March contracts. Following figures show the price of spot cotton at the various ports at the close of each week in March:

	New York	New Orleans	Interp.
March 7	9 95c.	9 58c.	5 22 1/2
March 14	10c.	9 7c.	5 30d
March 21	10 40c.	9 3 1/2c.	5 42d
March 28	10 50c.	9 7c.	5 32d

The finished goods division of the market has experienced its ups and downs also, but there has been no greater purchasing factor during the month than the rubber manufacturer. It was not to be expected that the present time would see an abnormal, or even a normal, demand for cottons from this source, and yet selling agents report a very good volume of trade all through the month. As announced at the outset, the strong position of raw material has wielded a marked influence over goods, and prices for finished cottons have been commensurately high. This, however, does not affect rubber manufacturers who contracted for their cloth by the year.

Prices for light-weight cottons used by the footwear manufacturers have not changed, but there has been no weakness in evidence. At present sellers show an inclination to restrict their sales on certain lines on account of the prospective strike at the Lowell mills. Not that any of these goods are made in Lowell, but the shutting out of the market of Lowell products will turn the tide of demand toward other goods and create a scarcity, which is an easy matter when it is considered that the Southern mills are well sold up.

The hose and belting trades have been making formidable requisitions on the manufacturers of cotton ducks, thus showing that the rubber trade is fully up to anticipations. Notwithstanding the duck manufacturers have recently increased their facilities, they are still unable to keep up with the demand. From indications at hand it is believed that the rubber mills are going to exceed the outside limit of consumption. That is to say, that the amount stipulated in their contracts for the year are not going to be sufficient to carry them through the season, and they will, in many cases, go beyond the limit.

Felt manufacturers have had a fair call from the manufacturers of rubber boots, and most of the mills are in possession of sufficient business from this source to keep their machinery going for a number of weeks. Prices have not changed.

Prices for light-weight cottons, such as are used by the footwear manufacturers, are current in this market as follows:

Forty-inch Majestic C. C.	63 1/2 cents.
Forty-inch Majestic B. B. O.	61 1/2 cents.
Forty-inch Majestic B. B.	61 1/2 cents.
Forty-inch. Elcaney	51 1/2 cents.
Thirty-six inch, India	53 1/2 cents.



## REVIEW OF THE CRUDE RUBBER MARKET.

CURRENT quotations correspond very closely with those presented in this column a month ago, though meanwhile lower prices have prevailed at times, with a less firm market than at present. The decline referred to reflected the situation at Pará, where, on account of very large arrivals at Manáos, together with unfavorable news from the consuming centers, a feeling of apathy prevailed, causing a smaller demand and lower values. With more free buying for consumption, however, there has been an improvement in prices in all centers, notwithstanding the heavy receipts at Manáos which followed the removal of obstacles to the shipment of rubber from the Acre district.

This district is an important contributor to the supply of what is known as Purús rubber, and political conditions there have a direct bearing upon the yield of this grade of rubber. In 1898 the official estimate of the Acre output was 2000 tons; in 1899 it was 1150 tons; and in 1900 not more than 800 tons, the decrease being due to the attempts of the rubber collectors to segregate the region of the Acre from Bolivia, and form a separate republic. The failure of this attempt was followed by an increased rubber production,—amounting to over 2000 tons in 1901—which again declined during the recent troubles between Brazil and Bolivia, one result of which was the closing of the Amazon to shipments from the Acre from August last to February 20 of the present year. There is no means of knowing how much rubber awaited shipment from the Acre on the last date mentioned, and this element of the present season's crop remains a matter for conjecture. It would not be surprising, however, if the total arrivals up to June 30 should equal those of last year, which were the heaviest ever recorded. Arrivals at Manáos for the first seven months of the crop year indicated a shortage of 2164 tons compared with the same period of the preceding year, but by the end of February this shortage had been reduced to 755 tons, since which time receipts have continued in good volume.

Arrivals of India-rubber (including Caucho) at Pará during each of the last three crop years have been as follows, in tons, in addition to which is given a column comparing the receipts of the present year, up to the end of each month, with those of last season:

	1899-01.	1900-02.	1901-03.	This year's Crop.
To July 31.....	860	1,200	1,200	30 more
To Aug. 31.....	2,150	2,550	2,600	110 "
To Sept. 30.....	3,430	4,490	4,330	160 less
To Oct. 31.....	5,750	7,130	6,610	520 "
To Nov 30.....	7,980	10,100	9,260	840 "
To Dec. 31.....	11,300	13,630	12,250	1,380 "
To Jan. 31.....	13,740	17,490	14,740	2,750 "
To Feb. 28.....	17,050	20,870	19,500	1,370 "
To March 31.....	21,820	24,530	*23,260	*1,270 "
To April 30.....	24,380	26,670		
To May 31.....	26,024	28,750		
To June 30.....	27,610	30,000		

\* To March, 1903.

It is not alone from the Amazon valley that good arrivals have been reported. Early in the year attention was called to the small stocks at Antwerp and the comparatively small receipts for several months preceding. The Antwerp statistics which appear on another page indicate that arrivals from the Congo are becoming greater, but in spite of this prices for Congo sorts are being well maintained, and as this paper goes to press it is understood that the bids in hand for the large inscription sale at Antwerp of March 31 are fully up to the brokers' estimations on the rubber to be exposed. Bids for large

amounts, as usual, have been sent from the United States.

Consumption in all the leading countries is well maintained and in this connection it may be of interest to note the volume of imports from all sources into the United States during the first eight months of several fiscal years:

	1897-98.	1898-99.	1899-00.	1900-01.
Pounds.....	33,032,662	31,999,711	32,891,798	34,519,484

Arrivals at New York continued on a large scale, the receipts from Pará alone exceeding by 500,000 pounds the receipts in the same month of last year. Reports from the rubber factories in every branch are that they are exceptionally busy.

New York quotations on March 30 were:

PARÁ.		CENTRALS.	
Islands, fine, new....	@87	Esmeralda, sausage....	@67
Islands, fine, old.....	@	Guayaquil, strip.....	@61
Upriver, fine, new....	@91	Nicaragua, scrap....	@67
Upriver, fine, old....	@96	Panama, slab.....	@55
Islands, coarse, new....	@57	Mexican, scrap.....	@67
Islands, coarse, old....	@	Mexican, slab.....	@55
Upriver, coarse, new....	@73	Mangabeira, sheet....	@52
Upriver, coarse, old....	@		
Caucho (Peruvian) sheet	@55	EAST INDIAN.	
Caucho (Peruvian) ball	@68	Assam.....	
AFRICAN.		Borneo.....	@
Sierra Leone, 1st quality	@79	GUTTA-PERCHA.	
Massai, red.....	@79	Prime, red.....	@2 25
Benguella.....	@65	Prime, white.....	@1 50
Cameroon ball.....	@61	Lower grades.....	@1 25
Gaboon flake.....	@38	Reboiled, prime.....	@.90
Gaboon lump.....	@41	Reboiled, inferior.....	@.25
Niger paste.....	@21		
Accra flake.....	@21	Balata, sheet.....	@65
Accra buttons.....	@59	Balata, block.....	@55
Accra strips.....	@60	Pontianak (in quanti	
Lopori ball, prime....	@82	ties).....	@ 3½
Lopori strip, do.....	@80	Almeidina.....	@ 8
Ikelemba.....	@83	Tuno gum.....	@12
Madagascar, pinky....	@78	Chicle.....	@42

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine.....	\$5550	Upriver, fine.....	\$6500
Islands, coarse.....	\$2700	Upriver, coarse.....	\$4800

Exchange, 12½¢.

Last Manáos advices:

Upriver, fine.....	\$6250	Upriver, coarse.....	\$4350
Exchange, 12½¢.			

NEW YORK RUBBER PRICES FOR JANUARY (NEW RUBBER).

	1902.	1901.
Upriver, fine.....	86@92	77@86
Upriver, coarse.....	71@76	62@65
Islands, fine.....	84@89	75@81
Islands, coarse.....	53@62	47@52
Cametá, coarse.....	55@64	50@52½

NEW YORK RUBBER PRICES FOR FEBRUARY (NEW RUBBER).

	1903.	1902.	1901.
Upriver, fine.....	84@90	72@79	85½@88
Upriver, coarse.....	70@73	60@63	63@66
Islands, fine.....	82@87	69@76	83@85
Islands, coarse.....	50@54	45@48	45½@48
Cametá, coarse.....	52@57	48@50	52½@54

### Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers—are practically unchanged, as follows:

Old Rubber Boots and Shoes.....	Domestic.....	7½¢ @ 7½¢
Do.....	—Foreign.....	6½¢ @ 6½¢
Pneumatic Bicycle Tires.....		5¼¢
Solid Rubber Wagon and Carriage Tires.....		6½¢
White Trimmed Rubber.....		9½¢ @ 9½¢
Heavy Black Rubber.....		4¼¢
Air Brake Hose.....		2½¢ @ 3
Fire and Large Hose.....		2½¢
Garden Hose.....		1½¢
Matting.....		1

## Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.			Total 1901.	Total 1902.	Total 1903.
	Fine and Medium.	Coarse.	Total 1901.			
Stocks, January 31 . . . . . tons	223	30	= 253	1339	682	1721
Arrivals, February . . . . .	986	623	= 1609	1381	1683	—
Aggregating . . . . .	1209	653	= 1862	2720	1735	—
Deliveries, February . . . . .	926	637	= 1563	2016	1649	—
Stocks, February 28 . . . . .	283	16	= 299	704	695	—

	PARÁ.			ENGLAND.		
	1901.	1902.	1903.	1901.	1902.	1903.
Stocks, Jan. 31 . . . . . tons	155	510	715	1050	1230	1675
Arrivals, February . . . . .	4740	3075	2945	1110	1105	1288
Aggregating . . . . .	4895	3585	3660	2100	2335	2006
Deliveries, February . . . . .	4865	2535	3100	1925	725	975
Stocks, Feb. 28 . . . . .	30	1030	560	1145	1610	1625

World's supply, February 28 . . . . . tons	3945	5327	4277
Pará receipts, July 1 to February 28 . . . . .	17,801	18,839	15,863
Pará receipts of Caucho, same dates . . . . .	1700	1696	1167
Afloat from Pará to United States, Feb. 28 . . . . .	1188	1073	1070
Afloat from Pará to Europe, February 28 . . . . .	1283	910	927

## Paris.

GUSTAVE JOB & CO., 110, rue Denfert-Rochereau, is the style and address of a new firm engaged in the importation of crude India-rubber, Gutta-percha, and colonial products. The direction will be in the hands of Mr. Job, who has had nine years experience in the rubber trade in the north of Brazil and three years in England.

## Rubber Receipts at Manaos.

DURING February and for the first eight months of the crop season [by courtesy of Messrs. Witt & Co.]:

FROM—	FEBRUARY.			JULY-FEBRUARY.		
	1901.	1902.	1903.	1901.	1902.	1903.
Rio Purús . . . . . tons	1838	1224	2081	4473	5110	4531
Rio Madeira . . . . .	360	421	281	1838	2281	1906
Rio Juruá . . . . .	786	349	823	2801	2680	2158
Rio Javary—Iquitos . . . . .	78	40	165	1330	1012	1021
Rio Solimões . . . . .	89	118	175	1105	1392	960
Rio Negro . . . . .	124	72	106	449	259	303
Total . . . . .	3275	2224	3631	12056	12752	10972
Caucho . . . . .	571	213	752	1767	1826	1589
Total . . . . .	3846	2437	4383	13823	14578	12561

## London.

EDWARD TILL & CO., March 2, report stocks:

LONDON	1903.			1902.	1901.
	1903.	1902.	1901.	1902.	1901.
Pará sorts . . . . . tons	—	—	—	—	—
Borneo . . . . .	27	134	179	—	—
Assam and Rangoon . . . . .	2	38	20	—	—
Other sorts . . . . .	191	423	646	—	—

Total . . . . .	220	595	845	—	—
-----------------	-----	-----	-----	---	---

LIVERPOOL	1903.			1902.	1901.
	1903.	1902.	1901.	1902.	1901.
Pará . . . . .	1151	1602	1036	—	—
Other sorts . . . . .	568	881	1108	—	—

Total, United Kingdom . . . . .	1939	3078	2989	—	—
Total, February 1 . . . . .	1921	2674	3129	—	—
Total January 1 . . . . .	1582	2794	2601	—	—
Total, December 1 . . . . .	2083	2525	3061	—	—
Total, November 1 . . . . .	2337	2602	3040	—	—
Total, October 1 . . . . .	2464	2802	2846	—	—

## PRICES PAID DURING FEBRUARY.

	1901.	1902.	1903.
	1901.	1902.	1903.
Pará fine, hard cure . . 3/6 @ 3/9	1 3/4	3/— @ 3/4	1 3/4 @ 3/4
Do soft cure . . 3/5 1/2 @ 3/9	1 3/4	3/— @ 3/4	1 3/4 @ 3/4
Negroheads, Islands . 2/2 1/2 @ 2/4 1/2	1 1/11	2/— @ 2/4	1 1/11 @ 2/4
Do scrappy 2/10 @ 3/0 1/2	2 6/14 @ 2 7/12	2 7/12 @ 2 7/12	2 7/12 @ 2 7/12
Bolivian . . . . . No sales.	3/1 @ 3/2	3/1 @ 3/2	3/1 @ 3/2

MARCH 13.—The market for Pará sorts has further reacted on pressure to sell, prices declining 1/2d. to 1d. per pound, but only moderate

business has been done, including fine hard down to 3d. spot and 3s. 9 1/2d. forward. Soft cure has been neglected, with sales down to 3s. spot and 3s. 9 1/2d. forward. Negroheads quiet, with sales of scrap at 3s. 10 1/2d. @ 3s. 1 1/4d., old Camerons at 2s. 10d., and Islands, 2s. 4d. Bolivian: Sales of fine at 3s. 9d.; ball at 2s. 11 1/2d.; 2s. 11 1/2d.; 2s. 11 1/2d.; 2s. 11 1/2d. Mollendo scarce and wanted at 3s. 8 1/2d. Medium sorts are in very small supply and desirable lots sell well. Red rubbers are dearer and Mozambique very scarce. At to day's auction small supplies were brought forward and only part sold at steady prices. Mollendo: fine, 3s. 11 1/2d.; entreme, 3s. 6 1/2d.; negroheads, 2s. 10 1/2d. Colombian: clean dry fresh sheets, 3s. 1d. Central American: fine clean pressed sheet, 3s. 2 1/4d. Mangabeira: good thin Santos sheets, 2s. 7d. Mozambique: Uganda gummy bales, 2s. 3d. Assam: red slightly mixed, 2s. Penang: fair red selected but a little mixed, 2s. 9d. Nyasaland: fine ball, 3s. 4d., ordinary 2s. 6 1/4d.

Balata—Venezuela block: 120 bales retired at 2s. per pound.

## CEYLON RUBBER MARKET.

February 27, sales at auction, 28 packages. Fine thin biscuits, 3s. 10d. @ 4s. 2 1/4d.; scrap, 3s. @ 3s. 4 1/2d.

March 13, sales of 19 packages. Fine thin biscuits, 4s. 2d. @ 4s. 2 1/2d., thicker squares, 4s., fine pale scrap, 3s. 8 1/2d. @ 3s. 1 1/4d.; mixed scrap, 3s. @ 3s. 3 1/4d. [The highest quotation here equalled \$1.02 1/2 per pound, while best quotations above for rubber from Pará equal 92 1/4 cents per pound.]

## Liverpool.

ON February 27, at the Liverpool court of bankruptcy, a receiving order was made out on the petition of S. Kramrisch and Frederick Stern, trading since 1894 as Kramrisch & Co., India-rubber merchants, at The Albany, Old Hall street, Liverpool. At a meeting of creditors on February 24, a statement was read, from which it appeared that there were liabilities of £111,663 11s., and assets only estimated to produce £7089 18s. 11d., leaving a deficiency of at least £104,573 12s. 1d. [= \$508,920.62]. The greatest sufferers are certain banking houses who have been advancing money or rubber.

WILLIAM WRIGHT & CO. report [March 2]:

Fine Para.—In anticipation of heavy receipts, prices declined somewhat at the early part of the month; this decline was further helped by the failure of a local dealer. The market has since recovered, and closes firm at 1d. per pound above prices ruling at the end of last month. Manufacturers must bear in mind that we are now near the end of the heavy months' receipts, and that the present statistical position, coupled with an active demand and a decided shortage in medium grades, will justify a further advance in the near future; this advance, in our opinion, is extremely probable. In Pará and Manaos the market has been extremely active at advancing prices, closing with strong buyers of Up-river at the parity of 3s. 10d., and of Islands, 3s. 9d., delivered here.

EDM. SCHLÜTER & CO. report Liverpool stocks:

	Jan. 1.		Feb. 28.			Jan. 1.		Feb. 28.	
	1902.	1903.	1902.	1903.		1902.	1903.	1902.	1903.
Pará—1st hands . . . . .	642	735	tons.	tons.	Africans . . . . .	432	355	tons.	tons.
Fine . . . . .	41	48	tons.	tons.	Peruvians . . . . .	81	101	tons.	tons.
Medium . . . . .	142	141	tons.	tons.	Mollendo . . . . .	61	59	pkg.	pkg.
Negroheads . . . . .	493	416	tons.	tons.	Mangabeira . . . . .	13	9	tons.	tons.
Pará—2d hands . . . . .	493	416	tons.	tons.	Perambuco . . . . .	133	113	tons.	tons.
Fine . . . . .	44	44	tons.	tons.	Manioba . . . . .	936	233	tons.	tons.
Medium . . . . .	19	19	tons.	tons.	Ceara . . . . .	321	113	tons.	tons.
Negroheads . . . . .	—	—	tons.	tons.					

## Hamburg.

FOR the advancement of Hamburg as a rubber market, the firm of August Bolten, successors to William Miller, ship-brokers, Hamburg, has induced the Hamburg-America Line and the Hamburg-South America Steamship Co. to establish a regular service to and from North Brazil (Amazon river, Pará, Manaos, Ceará, and Maranhão). After the English steamer lines have withdrawn from the Continent, after a stubborn competitive fight, purchases of rubber can be made now much cheaper in Hamburg and Havre than in Liverpool, as the Hamburg companies are bringing the rubber direct from Pará and



Manaos to Hamburg and Havre, and, according to contract with the English lines, at the same freight rates as there to Liverpool. In purchasing rubber at Liverpool, therefore, a surplus of freight from there to Hamburg or Bremen has to be paid, amounting to from 8 to 9 marks, which increases the price of a ton of rubber considerably. The needs of rubber can therefore be filled now cheaper in Hamburg than in Liverpool.

*Georg. Zeitung.*

### Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: During last month two rubber sales took place, the first of which, on February 13, embracing about 50 tons, influenced by a temporary weakness of the Liverpool market, showed somewhat irregular and partially lower prices. The regular monthly sale on February 20 indicated a stronger tendency of the market. The small quantity offered—152 tons—no doubt contributed to this result, and prices were  $2\frac{1}{4}$  per cent. above valuations. The more important lots sold were:

	Valuation.	Sold at
35 tons Aruwimi.....	francs 8.05	8.40
12 " Aruwimi.....	8.40	8.45
30 " Mongalla, strips.....	8.30	8.47½
13 " Yengu (Upper Congo).....	8.75	8.75@8.80

On March 6 there was sold to arrive, per steamer *Anversville*. 155 tons Lopori, at very full figures, viz.: 120 tons first grade at 9.15 francs; 15 tons second grade at 8.65 francs; and 20 tons third grade at 8.35 francs, per kilogram. The last prices paid for Lopori I had been 8.30 @ 8.50 francs, on December 19 last.

The next monthly sale has been announced for March 31, the quantity to be exposed amounting to 450 tons, of the usual Congo sorts.

The small sale on March 13, when 26 tons were offered, besides 30 to 40 tons to arrive from now until the end of June, passed off without noticeable change in prices. The *Anversville* arrived yesterday from the Congo, with 517 tons, of which 151 tons of the Lopori mentioned above have already been sold, so that the available quantity to be sold in April amounts thus far only to 366 tons.

C. SCHMID & CO.

Antwerp, March 1.

### REGULAR SALE OF MARCH 31.

KARCHER & Co. report the broker's estimations for the following principal lots to be exposed on the above date:

11,234 kilos Kassai red I.....	francs 9.15
3,350 " Kassai red (second Loanda type).....	8.40
13,152 " Kassai black (very good condition).....	8.75
3,035 " Kassai (Sankuru) ball.....	8.65
8,575 " Congo Djuma ball.....	7.50
9,791 " Lower Congo—cakes from thimbles.....	7.25
17,498 " Lower Congo—thimbles, medium.....	4.25
10,886 " Lake Leopold II—small cut pieces.....	8.75
27,847 " Lake Leopold II—large pieces.....	6.90
24,410 " Upper Congo—ordinary.....	5.50
70,655 " Upper Congo—Uelé.....	8.25
11,181 " Upper Congo—red twists.....	8.65
18,225 " Upper Congo Aruwimi—clean and strong.....	8.70
42,100 " Upper Congo—ordinary.....	8.60
29,667 " Upper Congo—Uelé strips.....	5.35
26,855 " Upper Congo—Aruwimi good quality.....	8.60
3,536 " Lower Congo thimbles.....	5.25
21,903 " Upper Congo Mongalla—small strips clean.....	8.45
5,045 " Katanga balls and cut balls.....	8.
9,504 " Upper Congo Isangi.....	7.75
5,941 " Conakry niggers.....	8.50
1,048 " Soudan twists.....	8.75
6,147 " Kamerun cut pieces.....	8.40
4,150 " Mattogrosso virgin.....	9.25

### RUBBER ARRIVALS AT ANTWERP.

FEB. 19.—By the *Albertville*, from the Congo:

Bunge & Co.....	(Société Générale Africaine) kilos	142,000
Do.....	(Chemins de fer des Grand Laes)	2,600
Do.....	(Société Isangi)	14,000

Do.....	(Société Anversoise)	25,600
Do.....	(Société Spécial Katanga)	5,900
Société Coloniale Anversoise.....	(Belge du Haut Congo)	7,300
Do.....	(Cie. de Lomami)	4,000
Do.....	(Sud Kamerun)	6,700
Do.....	(Various parties)	4,000
Comptoir des Produits Coloniaux.....	(Cie. de la N'Goko)	1,100
Cie. Commerciale des Colonies.....	(Cie. Française du Congo)	1,300
L. & W. Van de Velde.....	(Cie. du Kassai)	17,000
		231,500

MARCH 12.—By the *Anversville*, from the Congo:

Bunge & Co.....	(Société Générale Africaine) kilos	255,000
Do.....	(Chemins de fer des Grand Laes)	16,800
Do.....	(Société Anversoise)	10,000
Do.....	(Comité Spécial Katanga)	5,300
Do.....	(Société Isangi)	1,700
Do.....	(Sultanats du Haut Ubangi)	1,500
Do.....	(Société "La Koto")	800
Société A B I R.....	(Sold to arrive)	151,000
M. S. Cols.....	(Société L'Ikelemba)	1,000
Société Coloniale Anversoise.....	(Société La Lulonga)	7,300
Do.....	(Various companies)	1,000
Do.....	(Cie. de Lomami)	15,000
L. & W. Van de Velde.....	(Cie. du Kassai)	38,000
Société Coloniale du Baniembe.....		1,000
Société Agricole & Commerciale de l'Alima.....		1,400
Charles Dethier.....	(La Haut Sangha)	2,300
Do.....	(Société Belgika)	2,200
Do.....	(Cie. de la M'Poko)	2,800
Comptoir des Produits Coloniaux.....	(Cie. de la Kadeia Sangha)	1,800
Do.....	(Cie. de la L'ekela Sangha)	800
Evrard Havenith.....	(Andrea)	600
		517,300
		[Equal to 1,138,060 pounds.]

### ANTWERP RUBBER STATISTICS FOR JANUARY.

DETAILS.	1902.	1901.	1900.	1899.
Stocks, Jan. 1.....	658,105	414,709	614,930	291,091
Arrivals in January.....	171,860	636,243	543,626	475,870
Congo sorts.....	116,541	613,897	443,753	430,996
Other sorts.....	55,319	22,346	100,873	44,874
Aggregating.....	824,965	1,050,952	1,157,665	767,871
Sales in January.....	695,830	407,253	509,034	225,773
Stocks, Jan. 31.....	134,135	643,699	648,631	542,098
Arrivals since Jan. 1.....	171,860	636,243	543,626	475,880
Congo sorts.....	136,541	613,897	443,753	430,996
Other sorts.....	35,319	22,346	100,873	44,884
Sales since Jan. 1.....	695,830	407,253	509,034	225,773
				250,662

### ANTWERP RUBBER STATISTICS FOR FEBRUARY.

DETAILS.	1902.	1901.	1900.	1899.
Stocks, Jan. 31.....	134,135	643,699	648,631	542,098
Arrivals in February.....	545,813	607,015	459,632	884,156
Congo sorts.....	411,743	591,142	443,753	751,431
Other sorts.....	74,070	15,873	2,879	202,646
Aggregating.....	679,948	1,250,814	1,108,263	1,426,254
Sales in February.....	204,410	205,994	327,103	807,454
Stocks, Feb. 28.....	475,538	984,820	781,100	618,800
Arrivals since Jan. 1.....	717,073	1,243,358	1,003,258	1,360,036
Congo sorts.....	610,254	1,211,115	874,408	1,143,409
Other sorts.....	106,819	132,243	128,750	216,627
Sales since Jan. 1.....	900,240	673,247	836,197	1,033,227
				524,893

### Para.

AN agreement to settle the Acre dispute without arms having been reached by Brazil and Bolivia, the suspension of free transit of Bolivian goods on the Amazon, which had existed since August 8, 1902, was removed by the Brazilian government on February 20, 1903. Pending arbitration, rubber from the Acre will be regarded as Bolivian rubber in transit—and hence not subject to the Brazilian export duty—though the decision on this point by the central government of Brazil

was strongly opposed by the state governor at Manáos. Meanwhile the proceeds of the export duties levied in the district of production will be divided equally between Bolivia and Brazil. A correspondent writes regarding certain rubber which, after paying duty to the Bolivian authorities, was again taxed at Manáos: "The duties imposed upon transit rubber by the Manáos authorities have not yet been refunded, partly perhaps on account of the impecuniosity of the Manáos exchequer, which, despite its large revenue, suffers from chronic exhaustion."

## IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

March 5.—By the steamer *Dominic*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Catch.	Total.
New York Commercial Co.	341,000	68,100	105,300	13,100	527,500
A. T. Morse & Co.	259,100	58,500	74,500	27,800	419,900
Poel & Arnold	198,400	44,900	45,900	15,100	304,300
United States Rubber Co.	.....	.....	34,100	21,900	56,000
William Wright & Co.	34,600	2,800	17,200	.....	54,600
Lawrence Johnson & Co.	31,000	5,000	5,000	.....	41,000
Edmund Reeks & Co.	24,500	3,700	9,400	.....	37,600
Hagemeyer & Brunn	10,100	2,300	4,500	.....	16,900

## PARA RUBBER VIA EUROPE.

MARCH 16.—By the *City of Washington*—Mollendo:

New York Commercial Co. (Fine)	7,600
New York Commercial Co. (Coarse)	1,000

MARCH 13.—By the *Adrian*—Mollendo:

John M. Parr's Sons (Fine)	5,000
John M. Parr's Sons (Coarse)	1,000

MARCH 13.—By the *Germania*—Liverpool:

William Wright & Co. (Fine)	22,000
George A. Alden & Co. (Fine)	11,000

MARCH 16.—By the *Ivernia*—Liverpool:

Poel & Arnold (Fine)	22,500
George A. Alden & Co. (Fine)	14,000

MARCH 21.—By the *Cedre*—Liverpool:

George A. Alden & Co. (Coarse)	7,000
Poel & Arnold (Coarse)	4,500

MARCH 23.—By the *Etruria*—Liverpool:

George A. Alden & Co. (Fine)	15,000
Poel & Arnold (Coarse)	15,000

## OTHER ARRIVALS AT NEW YORK

## CENTRALS.

FEB. 21.—By the *St. Paul*—London:

Poel & Arnold	7,000
---------------	-------

FEB. 25.—By the *Valencia*—Cartagena:

Guterman, Rosenfeld & Co.	2,500
Kunhardt & Co.	700
Lawrence Johnson & Co.	500

FEB. 26.—By the *Segura*—Colon:

Hirzel, Feltman & Co.	10,000
Isaac Brandon & Bros.	2,000
American Trading Co.	1,000
G. Amsluck & Co.	700

FEB. 27.—By the *El Sud*—New Orleans:

A. T. Morse & Co.	7,500
Manhattan Rubber Mfg. Co.	6,000
A. N. Rotholz	1,500

MARCH 2.—By the *Monterrey*—Mexico:

E. Steiger & Co.	1,000
Graham, Hinkley & Co.	1,500
Harburger & Staek	1,000
Thebaud Brothers	500
F. Probst & Co.	1,000
Willard, Hawes & Co.	600
H. Marquardt & Co.	1,200
L. N. Chemedlin & Co.	700

MARCH 3.—By the *Altan*—Cartagena:

J. H. Recknagel & Co.	1,000
Jimenez & Escobar	1,200
Lawrence Johnson & Co.	1,500
Kunhardt & Co.	300
A. D. Straus & Co.	100

MARCH 5.—By the *Buffon*—Bahia:

Booth & Co.	4,000
-------------	-------

MARCH 6.—By the *City of Washington*—Colon:

Samper & Co.	9,800
G. Amsluck & Co.	7,400
Roldan & Van Sickle	3,500
L. N. Chemedlin & Co.	3,500

L. Hageners & Co.	4,300	2,400	1,700
-------------------	-------	-------	-------

Total ..... 903,600 185,300 298,300 77,900=1,465,100

March 13.—By the steamer *Hubert*, from Manáos and Pará:

New York Commercial Co.	312,600	84,200	105,300	28,300	530,400
Poel & Arnold	151,100	20,000	77,100	67,500	315,700
A. T. Morse & Co.	66,500	29,800	61,500	122,300	280,100
William Wright & Co.	13,600	2,100	49,000	.....	64,700
United States Rubber Co.	.....	.....	45,500	.....	45,500
Edmund Reeks & Co.	11,400	2,000	7,000	9,900	30,300
L. Hageners & Co.	11,000	.....	10,400	.....	21,400
Hagemeyer & Brunn	1,000	.....	10,500	.....	11,500

Total ..... 597,800 145,100 300,100 212,500=1,355,500

March 23.—By the steamer *Hubert*, from Manáos and Pará:

A. T. Morse & Co.	203,300	52,600	89,300	26,800	372,000
New York Commercial Co.	205,100	32,700	63,800	8,300	309,900
Poel & Arnold	128,700	58,200	55,700	15,300	257,700
Edmund Reeks & Co.	13,400	3,400	9,400	42,300	68,500
Hagemeyer & Brunn	23,200	6,400	4,200	.....	34,000
United States Rubber Co.	700	.....	41,100	1,200	43,000
L. Hageners & Co.	7,000	700	7,300	.....	15,000
William Wright & Co.	.....	.....	3,200	.....	3,200

Total ..... 581,200 154,000 274,000 102,000=1,111,200

[Note: The *Amazons*—due at New York April 1—will carry 100,000 R.B. and 25 tons Cancho.]

## CENTRALS—Continued.

Hirzel, Feltman & Co.	2,600
Silva Bissenhuis & Co.	2,400
Isaac Brandon & Bros.	2,300
American Trading Co.	2,100
A. M. Capen Sons	2,100
Lawrence Johnson & Co.	2,000
Piza, Nephews & Co.	1,900
Andreas & Co.	1,600
W. R. Grace & Co.	1,300
Dumarest & Co.	1,200
Kunhardt & Co.	1,100
E. B. Strout	1,200
Eggers & Heinlein	1,100
Everett, Heamey & Co.	400
J. Menendez & Co.	400
For Antwerp	3,300

MARCH 9.—By the *Santa de Cuba*—Mexico:

H. Marquardt & Co.	2,500
American Trading Co.	1,000
Samuels & Cummings	500
Smithers, Nordenholt & Co.	700

MARCH 9.—By the *Umbria*—Liverpool:

Poel & Arnold	5,500
---------------	-------

MARCH 9.—By the *Philadelphia*—London:

Poel & Arnold	16,200
---------------	--------

MARCH 11.—By the *Algha*—Greytown:

E. B. Strout	5,000
G. Amsluck & Co.	1,500
A. D. Straus & Co.	3,600
C. Wessels & Co.	100

MARCH 11.—By the *Horvatus*—Bahia:

J. H. Rossbach & Bros.	13,000
------------------------	--------

MARCH 13.—By the *Algha*—Colon:

Hirzel, Feltman & Co.	5,000
G. Amsluck & Co.	1,400
Eggers & Heinlein	1,100
Fidanque Bros. & Co.	300
Jimenez & Escobar	800
Joseph Hecht	300

MARCH 13.—By the *Germania*—Liverpool:

George A. Alden & Co.	9,300
Poel & Arnold	2,200

MARCH 14.—By the *Esperanza*—Mexico:

Harburger & Staek	5,500
American Trading Co.	500
E. Steiger & Co.	700
E. N. Tibbals & Co.	500

MARCH 16.—By the *Algha*—Liverpool:

Otto Meyer	18,000
------------	--------

MARCH 16.—By the *Algha*—New Orleans:

Manhattan Rubber Mfg. Co.	5,000
W. Loza & Co.	3,000
A. T. Morse & Co.	2,500
Eggers & Heinlein	500

MARCH 17.—By the *Algha*—Savannah:

Sanper & Co.	5,500
Lawrence Johnson & Co.	2,000
Graham, Hinkley & Co.	500

MARCH 17.—By the *Algha*—Mexico:

H. Marquardt & Co.	1,700
American Trading Co.	700

## CENTRALS—Continued.

E. N. Tibbals & Co.	400
Samuels & Cummings	500

MARCH 23.—By the *Calypso*—Bahia:

J. H. Rossbach & Bros.	2,000
Booth & Co.	8,000

MARCH 24.—By the *V. C.*—Greytown:

A. D. Straus & Co.	5,000
Jimenez & Escobar	2,000
Kunhardt & Co.	5,000
Guterman, Rosenfeld & Co.	1,000
G. Amsluck & Co.	500
E. B. Strout	500
Andreas & Co.	500

## AFRICANS.

FEB. 24.—By the *Etruria*—Liverpool:

Otto Meyer	9,000
George A. Alden & Co.	5,000
Poel & Arnold	16,000

FEB. 24.—By the *Belgica*—Hamburg:

George A. Alden & Co.	13,000
A. T. Morse & Co.	5,000

FEB. 24.—By the *Dea*—Lisbon:

Poel & Arnold	38,000
---------------	--------

FEB. 27.—By the *Patna*—Lisbon:

George A. Alden & Co.	22,700
-----------------------	--------

MARCH 2.—By the *Celtic*—Liverpool:

George A. Alden & Co.	11,500
A. T. Morse & Co.	7,000
Poel & Arnold	2,700

MARCH 2.—By the *Porto*—Hamburg:

A. T. Morse & Co.	27,000
Poel & Arnold	10,000

MARCH 2.—By the *Compania*—Liverpool:

George A. Alden & Co.	44,000
Otto Meyer	14,000
Poel & Arnold	7,000
A. T. Morse & Co.	72,000

MARCH 3.—By the *Algha*—Liverpool:

George A. Alden & Co.	14,000
Poel & Arnold	5,500
Otto Meyer	6,000

MARCH 10.—By the *Algha*—Hamburg:

A. T. Morse & Co.	23,000
Otto Meyer	12,500
George A. Alden & Co.	5,000

MARCH 10.—By the *Algha*—London:

George A. Alden & Co.	6,000
-----------------------	-------

MARCH 11.—By the *Algha*—Antwerp:

A. T. Morse & Co.	11,500
Poel & Arnold	1,500

MARCH 12.—By the *Algha*—Liverpool:

Poel & Arnold	14,000
George A. Alden & Co.	14,000
A. T. Morse & Co.	23,000

MARCH 17.—By the *Algha*—Liverpool:

Poel & Arnold	14,000
W. H. Cummings & Sons	5,000



## AFRICANS—Continued.

MARCH 17.—By the <i>Rijn</i> =Rotterdam:	
A. T. Morse & Co.	11,500
Poel & Arnold	4,500
MARCH 17.—By the <i>Utrecht</i> =Antwerp:	
Poel & Arnold	11,000
Otto Meyer	5,000
New York Commercial Co.	1,500
MARCH 17.—By the <i>Cedre</i> =Liverpool:	
Poel & Arnold	2,100
George A. Alden & Co.	4,000
Earle Brothers	6,000
MARCH 21.—By the <i>Utrecht</i> =Liverpool:	
Poel & Arnold	37,000
MARCH 21.—By the <i>Peter</i> =Hamburg:	
A. T. Morse & Co.	17,000

## EAST INDIAN.

FEB. 25.—By the <i>Orono</i> =Singapore:	
William Wright & Co.	7,500
Windmüller & Reolker	6,000
Poel & Arnold	4,500
MARCH 6.—By the <i>Adria</i> =Singapore:	
William Wright & Co.	8,000
MARCH 7.—By the <i>Mogul</i> =Singapore:	
Poel & Arnold	7,000
Winter & Shillie	7,000
William Wright & Co.	5,000

## PONTIANAK.

FEB. 21.—By the <i>Indra</i> =Singapore:	
Robert Brauns & Co.	27,000
George A. Alden & Co.	90,000
Poel & Arnold	88,000
William Wright & Co.	57,000

## EAST INDIAN—Continued.

FEB. 25.—By the <i>Orono</i> =Singapore:	
J. H. Reckmager & Co.	41,000
Poel & Arnold	26,000
MARCH 17.—By the <i>Adria</i> =Singapore:	
Poel & Arnold	165,000
J. H. Reckmager & Co.	95,000
George A. Alden & Co.	50,000
MARCH 17.—By the <i>Ceylon</i> =Singapore:	
William Wright & Co.	250,000
George A. Alden & Co.	50,000
MARCH 21.—By the <i>Mogul</i> =Singapore:	
Poel & Arnold	180,000
Robert Brauns & Co.	200,000
William Wright & Co.	200,000
George A. Alden & Co.	35,000

## GUTTA-PERCHA AND BALATA.

FEB. 25.—By the <i>Rome</i> =Liverpool:	
Lawrence Johnson & Co.	11,500
FEB. 21.—By the <i>Indra</i> =Singapore:	
Robert Brauns & Co.	22,500
MARCH 1.—By the <i>Minneapolis</i> =London:	
For order	20,000
MARCH 6.—By the <i>Adria</i> =Singapore:	
Poel & Arnold	2,000
MARCH 10.—By the <i>Patriot</i> =Hamburg:	
For order	30,000
MARCH 14.—By the <i>Mogul</i> =Singapore:	
Robert Brauns & Co.	23,000
BALATA.	
MARCH 6.—By the <i>Maraval</i> =Trinidad:	
George A. Alden & Co.	7,000
Baley, Billing & Co.	800

MARCH 21.—By the <i>Cedre</i> =Liverpool:	
New York Commercial Co.	3,000
To Order	2,000

## CUSTOM HOUSE STATISTICS.

## PORT OF NEW YORK—FEBRUARY.

Imports:	POUNDS.	VALUE.
India-rubber	4,573,324	\$3,376,101
Gutta-percha	34,448	13,760
Gutta-jelutong (Pontianak)	943,350	29,094
Total	5,551,122	\$3,418,955
Exports:		
India-rubber	42,676	\$30,008
Reclaimed rubber	52,367	6,310
Rubber Scrap Imported	1,142,032	\$66,577

## BOSTON ARRIVALS.

	POUNDS.
FEB. 6.—By the <i>Sylvania</i> =Liverpool:	
Poel & Arnold—African	2,200
FEB. 9.—By the <i>Cambrian</i> =London:	
Poel & Arnold—Balata	10,600
FEB. 16.—By the <i>Iowa</i> =Liverpool:	
Poel & Arnold—African	22,500
FEB. 18.—By the <i>Utonia</i> =Liverpool:	
Poel & Arnold—African	9,800
FEB. 25.—By the <i>Virginian</i> =London:	
George A. Alden & Co.—East Indian	2,600
FEB. 25.—By the <i>Vaderland</i> =Amwerp:	
George A. Alden & Co.—African	167,344
[Included in New York arrivals, February 18.]	
Total Imports	219,312
[Value, \$139,577.]	

## FEBRUARY EXPORTS OF INDIA-RUBBER FROM PARA (IN KILOGRAMS).

1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Schrader & Co.	32,470	11,050	84,840	—	128,360	36,350	5,100	29,260	12,000	82,740	211,100
Frank da Costa & Co.	24,266	5,874	208,408	3,470	242,078	65,048	5,874	11,376	10,090	92,388	334,466
Adelbert H. Alden	70,550	27,740	81,401	—	188,671	37,000	5,320	3,200	5,208	50,728	239,399
Singlehurst, Brocklehurst & Co.	—	—	—	—	—	2,078	215	2,505	—	5,698	5,698
Neale & Staats	3,015	167	33,920	9,920	47,022	2,702	170	3,634	28,356	34,862	81,884
Denis Crouan & Co.	9,640	1,300	17,371	—	28,371	23,504	4,351	6,164	—	34,019	62,390
B. A. Antunes & Co.	5,780	1,930	4,235	1,200	13,145	7,246	4,858	2,887	—	14,991	28,136
Pires, Teixeira & Co.	20,689	—	10,121	—	36,810	3,724	—	1,947	—	5,671	42,481
Sundry small shippers	1,558	—	7,150	5,431	14,139	10,631	933	15,332	6,081	32,978	47,173
Direct from Iquitos	—	—	—	—	—	110,166	22,910	60,605	114,251	310,938	316,938
Direct from Manaus	968,192	241,211	242,629	217,585	1,669,617	1,153,258	142,477	140,456	362,995	1,804,126	3,473,743
Total for February	1,142,14	259,332	699,141	237,656	2,368,269	1,466,637	192,214	277,397	538,891	2,475,139	4,843,408
Total, January	702,613	157,954	573,902	123,847	1,558,316	693,727	79,698	265,732	137,234	1,176,391	2,734,707
Total, July-December	2,724,574	649,906	2,172,215	78,623	5,625,318	4,011,602	609,423	1,113,862	500,474	6,235,361	11,860,679
TOTAL CRP YEAR	4,560,327	1,097,192	3,445,258	440,126	9,551,903	6,171,966	881,335	1,656,991	1,176,590	9,886,891	19,438,794

## OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
January, 1903	5,881,341	191,006	5,690,335	January, 1903	5,278,784	4,229,344	1,049,440
January, 1902	6,273,979	172,106	6,101,833	January, 1902	4,702,208	2,965,200	1,737,008
January, 1901	4,448,785	304,712	4,084,785	January, 1901	5,819,856	2,674,672	3,145,184
January, 1900	5,528,830	268,225	5,260,605	January, 1900	4,552,976	2,965,616	1,627,360
GERMANY.				AUSTRIA-HUNGARY.			
MONTHS.	IM-PTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
January, 1903	3,012,020	1,161,360	1,850,660	January, 1903	260,920	220	260,700
January, 1902	2,581,920	1,056,000	1,525,920	January, 1902	223,960	220	223,740
January, 1901	2,256,760	400,180	1,856,580	January, 1901	140,800	440	140,360
January, 1900	2,885,080	1,410,860	1,474,220	January, 1900	—	—	—

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. Austrian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

WILLIAM T. BAIRD, PRESIDENT

ROBERT B. BAIRD, VICE PRESIDENT

# RUBBER TRADING COMPANY

38 MURRAY STREET,  
NEW YORK.

CABLE ADDRESS  
CHAUNBAIR

BOSTON OFFICE:

161 SUMMER STREET

TELEPHONE: 1924 CORTLANDT.

NEW YORK AND BOSTON

TELEPHONE 1599-2 OXFORD

## CRUDE RUBBER, RECLAIMED RUBBER, GUTTA PERCHA

AND RUBBER MANUFACTURERS' SUPPLIES.

WASHED OR MASSED RUBBER SUPPLIED TO THE TRADE

GENERAL SELLING AGENTS FOR THE MANUFACTURED RUBBER CO. OF PHILADELPHIA.

*Mention The India Rubber World when you write.*

## THE MANUFACTURED RUBBER CO.

MAIN OFFICE:

WORKS: METUCHEN, N. J.  
PENNSYLVANIA R. R.

828 DREXEL BUILDING.  
PHILADELPHIA.

MANUFACTURERS OF

RECLAIMED AND SUBSTITUTE RUBBER.

OUR SPECIAL BRANDS OF SHEETED RUBBER, WHICH ARE SUPERIOR

FOR MOLD AND PRESS WORK, ARE THE "FOREIGN,"

"DOMESTIC" AND "MEDIUM."

ALSO A SPECIAL PLANT FOR THE MANUFACTURE OF CHLORIDE OF SULPHUR.

*Mention The India Rubber World when you write.*



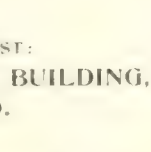
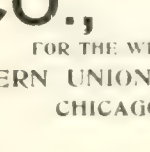
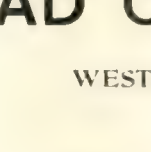
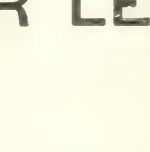
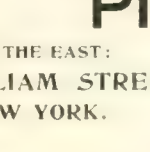
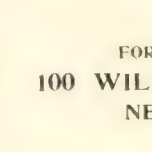
Rubber Manufacturers desiring the best lead pigment will find Sublimed White Lead most satisfactory for Standard Tire Stocks—and for all other Stocks where toughness and resiliency is desirable and necessary.

For samples and prices address

## PICHER LEAD CO.,

FOR THE EAST:  
100 WILLIAM STREET,  
NEW YORK.

FOR THE WEST:  
WESTERN UNION BUILDING,  
CHICAGO.



*Mention The India Rubber World when you write.*





Best Made.

*Mention The India Rubber World when you write.*

## HOLDEN, LEONARD & CO.,

72 LINCOLN ST., BOSTON.

Rain-proof  
Cloths  
in large variety  
of fabrics and  
styles.



New plant  
completed.  
Cloths treated  
for the  
trade.

CORRESPONDENCE INVITED.  
*Mention The India Rubber World when you write.*

## Milford Rubber Company,

**PROOFING HEADQUARTERS** for

TRIPLEX GOODS such as COTTON  
COVERTS DUCKS, etc. Also all kinds  
of DOUBLE AND SINGLE TEXTURE  
GOODS skirt bindings, etc. : : :

Office: No. 65 ESSEX STREET, BOSTON.

Factory: Milford, Mass.

*Mention The India Rubber World when you write.*

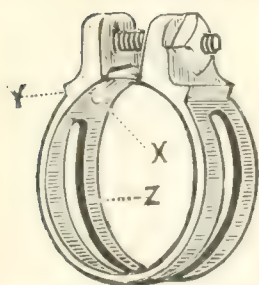
## Conant Rubber Co.,

### DRESS SHIELDS, NURSERY and HOSPITAL SHEETING.

Offices: No. 170 PURCHASE STREET, BOSTON.

Factory: SOUTH FRAMINGHAM, MASS.

*Mention The India Rubber World when you write.*



**Verdon's Improved  
Double Hose Band....**

**SIMPLE, STRONG, SURE.**

**Send for Sample and Prices.**

**WILLIAM YERDON, - Fort Plain, N. Y.**

*Mention The India Rubber World when you write.*

**"ALL ABOUT INDIA-RUBBER AND GUTTA-PERCHA"**

PUBLISHED BY FERGUSON, IN CEYLON.

\$1.75, prepaid, at THE INDIA RUBBER WORLD office.

**"Nerv-eze" Rubber Heels Ease the Nerves.**

Mechanical  
Goods,  
Mold and  
Press Work.



Proofers  
of Cloth  
For the  
Trade.

**ELECTRICAL and BICYCLE TAPE**

Manufactured by

**PLYMOUTH RUBBER CO.,**

STOUGHTON, MASS.

BOSTON: 503 Washington Street. NEW YORK: 16 East 14th Street

*Mention The India Rubber World when you write.*

## SYRINGE BOXES

OF WHITE WOOD, BASS, OAK, ASH, &c.

FINE WORK. LOW PRICES. PROMPT SHIPMENT.

*Estimates and Samples Furnished on Application.*

ALSO ANY OTHER KIND OF

**FANCY WOOD BOXES MADE TO ORDER.**

Extensive Facilities enable us to Guarantee Satisfaction.

**Henry H. Sheip Mfg. Co.**

1702-10 RANDOLPH ST., - PHILADELPHIA, PA.

*Mention The India Rubber World when you write.*



**D. C. HALL & CO.,**

86 LEONARD ST., NEW YORK.

MANUFACTURERS OF

WATERPROOF STOCKINET,

DIAPER SHIELDS, BIBS,

SHEETS and SHEETING,

BATHING CAPS,

HATS and HOODS.

DRESS SHIELDS, Etc.

... THE ...  
**SUBMARINE**

(PATENTED)

Will Positively Keep the Hair Dry.

*Mention The India Rubber World when you write.*

## The Atlas Chemical Co.

NEWTONVILLE, MASS.

MANUFACTURERS OF

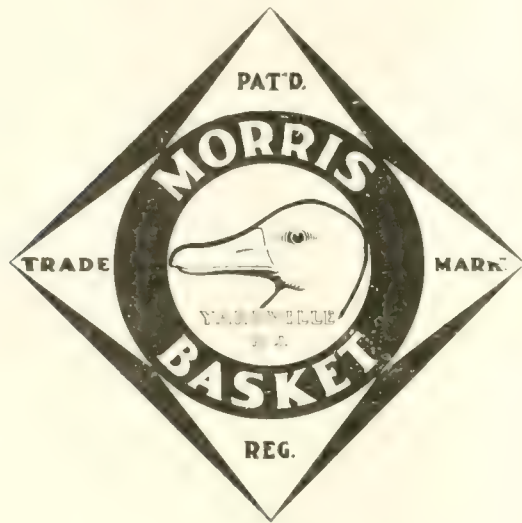
**SULPHURET OF ANTIMONY**

**FOR THE RUBBER TRADE.**

*Mention The India Rubber World when you write.*



Where you see that  
Trade Mark on Bas-  
kets you can know  
they are right. : : :



When once used always  
used. Our repeat orders  
tell us this. : : : :

*Mention The India Rubber World when you write.*

## William R. Thropp,

Manufacturer of

Rubber Washers, Grinders and Refiners

Automatic Jar Ring Lathes.

Hydraulic Steam Presses, Vulcanizers.

Moulds and Special Machinery.

Bicycle Tire Moulds a Specialty.

TRENTON, N. J., U. S. A.

*Mention The India Rubber World when you write.*

## MOULDS

Especially Vehicle Tire Moulds

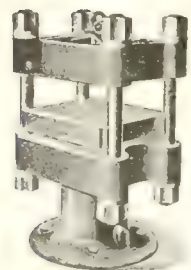
ALSO

Hydraulic and Hand Presses,  
Ring and Disc Cutting Machinery,  
Tubing Machines, etc.

THE WILLIAMS FOUNDRY AND  
MACHINE CO.,

Akron, Ohio.

*Mention The India Rubber World when you write.*



## STEAM PRESS

FOR

**Mechanical Goods.**

HYDRAULIC

OR

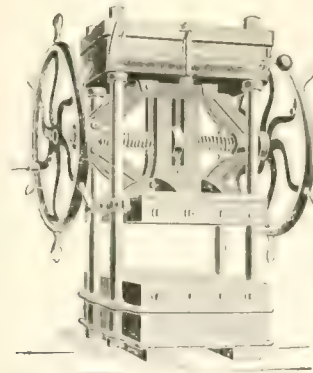
**KNUCKLE JOINT.**

Write for Prices.

**Boomer & Boscher Press Co.,**

336 West Water St.,

SYRACUSE, N. Y.



*Mention The India Rubber World when you write.*

## Embossing Calenders

- - FOR - -

Artificial Leather, Table Oil Cloth  
and Carriage Covers.

## Drying Machines

with Copper Cylinders for Cotton Duck,  
Drills and Sheeting.

**THE TEXTILE-FINISHING MACHINERY CO.,**

PROVIDENCE, R. I.

*Mention The India Rubber World when you write.*

## W. B. SMITH WHALEY & CO.,

**Mechanical and Mill Engineers,**

1012 TREMONT BUILDING,

BOSTON, MASS.

1328 MAIN STREET,

COLUMBIA, S. C.

**ELECTRIC POWER TRANSMISSION A SPECIALTY.**

Parties interested in electric driven machinery

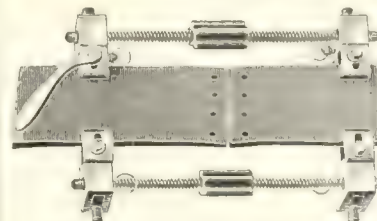
are invited to correspond with our Boston Office.

*Mention The India Rubber World when you write.*

Wherever Belting is used the

## PORTER BELT CLAMP

will pay for itself in a very short time.



Cutting Dies,

Moulds, all kinds



Roll Engraving,

Steel Stamps, etc.

**THE HOGGSON & PETTIS MFG. CO.,**

NEW HAVEN, CONN., U. S. A.

*Mention The India Rubber World when you write.*

 **We Manufacture Our Products by Mechanical Means.** 

# THE BLOOMINGDALE SOFT RUBBER WORKS,

Manufacturers of

**THE FINEST GRADES OF**

# Reclaimed and Devulcanized Rubber

**FOR**

## Manufacturing and Mechanical Purposes.

**BLOOMINGDALE, N. J.**

*Mention The India Rubber World when you write.*

ESTABLISHED 1859.

## THE LIVERPOOL RUBBER COMPANY, Ltd.

**LIVERPOOL, ENGLAND.**



*The highest grade of Rubber Boots and Shoes, "Liver" and "Ideal" Canvas Shoes, etc., etc.*

*High grade Mechanical, Engineering and Mill Work, Railway Springs, Valves, Buffers, Sheets, Insertion, Rings, Bladders, Deckles, Printers' Blankets, Hose, Belting, Mats, Packing, etc., etc.*

*Cycle and Carriage Tires, "Lockfast" pneumatic, single tube, cushion and solid.*

*India Rubber Thread.*

CHIEF OFFICE: 292 VAUXHALL RD., LIVERPOOL,

and at 34 Aldermanbury, London, E. C.,

20 Rue des Marais, Paris,

333 Kent St., Sydney, New South Wales.

Factories: Vauxhall Road, and -Walton, Liverpool.

*Mention The India Rubber World when you write.*



# THE NEW CENTURY RUBBER CO.

MANUFACTURERS OF

## Reclaimed Rubber

**Facilities:** New factory: machinery, our own design. **Quality:** We claim flexibility, strength and durability. The results of twenty-five years' practical experience. We guarantee our product to be absolutely free from ingredients that are in any way detrimental to the life of manufactured rubber goods.

**WORKS:**

EAST BURLINGTON, N. J.

Address all communications to office:

515 DREXEL BUILDING, PHILADELPHIA, PA.

*Mention The India Rubber World when you write.*

ESTABLISHED 1848.

## TOCH BROTHERS,

468-470-472 WEST BROADWAY, - NEW YORK CITY.

MANUFACTURERS OF

## Rubber Colors, Pigments and Chemicals

BRILLIANT TILE RED

GREEN for cold and hot cure

BALLOON RED

BLACK

YELLOW

WHITE

BUFF

BROWN

MAROON

SPECIAL COLORS FOR TILES.

If you want any special color made to order, communicate with us. If you are interested, send to us for copy of the "Chemistry of Raw Materials," which will be mailed to you gratis.

*Mention The India Rubber World when you write.*

## RUBBER FLUX.

OUR Rubber Flux works as its name suggests. It fluxes refractory mill-stocks, increases their capacity for pigment absorption and assists milling to a remarkable degree.

It *prevents blooming* and does not sweat or blow.

Pronounced by experts the most useful and economical rubber substitute ever produced. Has been thoroughly tested and is generally used. Samples sent on application. Address "Rubber Dept."

MASSACHUSETTS CHEMICAL CO.,

170 SUMMER STREET, BOSTON, MASS., U. S. A.

*Mention The India Rubber World when you write.*

## “SPECIAL”

## Zinc Oxide

for the

## Rubber Trade.

The New Jersey Zinc Company,

11 BROADWAY,

NEW YORK.

*Mention The India Rubber World when you write.*

# TYPKE & KING, INDIA RUBBER CHEMISTS, ETC.

OFFICES, 47 WILSON ST., FINSBURY SQUARE, LONDON, ENGLAND.

JOSEPH CANTOR, AGENT IN U. S., WALLACE BUILDING, 56-58 PINE ST., NEW YORK.

## RUBBER SUBSTITUTES,

MADE FROM REFINED KEROSENE OIL, FREE FROM ACID.

FINE CHEMICALS FOR RUBBER WORKING, GUARANTEED RELIABLE, AND NOT TO VARY.

## CRIMSON & GOLDEN SULPHURETS OF ANTIMONY.

Mention The India Rubber World when you write.

**• PURE •  
SOFT  
SULPHUR**

ESTABLISHED 1841.

INCORPORATED 1897

**Bergen Port  
Sulphur Works**

ORIGINAL MANUFACTURERS  
OF

**PURE SOFT SULPHUR**

PREPARED ESPECIALLY FOR

Rubber Manufacturers.

T. &amp; S. C. WHITE CO.,

28 Burling Slip, NEW YORK.

Mention The India Rubber World when you write.

# BENZOL

HEADQUARTERS FOR

ALL GRADES

of Coal Tar Naphtha and Benzol.

Samples and prices on application.

CHEM. DEPT.,

BARRETT MFG. CO.,

Philadelphia.

# SULPHUR

BROOKLYN SULPHUR WORKS,  
Manufacturers ofDouble Refined and Sublimed  
FLOUR SULPHUREspecially adapted to the use of  
RUBBER MANUFACTURERS  
AND WARRANTED FREE FROM GRIT.

**BATTELLE & RENWICK**

163 Front St., New York.

First Qualities.  Brand.

## ANTIMONY GOLDEN SULPHURET

Always contains same constant percentage  
of Free Sulphur.

Actien Ges. Georg Egestorff's Salzwerke,

Linden, near Hanover, Germany.

Mention The India Rubber World when you write.

H. L. TERRY,

Fellow of the Institute of Chemists

Analytical and Consulting Chemist.

Is open to be consulted on all matters relating to the  
technology of India-rubber, and to conduct Analyses  
of Rubber Goods.

LABORATORY:

23 HOPWOOD AVE.,  
MARKET PLACE.

MANCHESTER, ENGLAND

## New Process Pitch from

## Long Leaf Pine

E. B. WEED &amp; CO., Fayetteville, North Carolina.

Mention The India Rubber World when you write.

## Chemical Analysis of

Crude materials and Rubber Compounds; Insulating, Waterproofing, Hose,  
Tires, Shoes, Heels, Gaskets, Mats, Belts, Packing, Rollings, Unvulcanized, Vul-  
canized, Sulphur, Mineral, and other materials. [Member Am. Chem. Soc., M. S. C. I., London, M. D. C. G., Toronto.]

DURAND WOODMAN, Ph. D.,

ANALYTIC AND TECHNICAL CHEMIST,

127 PEARL STREET,

NEW YORK

Mention The India Rubber World when you write.

**PHILIP McGRORY,**

TRENTON, N. J.

Wholesale Dealer in SCRAP RUBBER.

THE HIGHEST CASH PRICE PAID FOR NEW AND OLD, CURED AND UNCURED

SCRAP RUBBER OF ALL KINDS.

Second-Hand Rubber Mill Machinery Bought and Sold

Mention The India Rubber World when you write.

# SUBSTITUTES

and RUBBER MANUFACTURERS'  
SUPPLIES.THE STAMFORD RUBBER SUPPLY CO.,  
STAMFORD, CONN.

Mention The India Rubber World when you write.



Established 1880

---

# Philadelphia Rubber Works Reclaimed Rubber

Philadelphia  
U. S. A.

---

Foreign Representatives:

For Great Britain  
Kuhn & Co.,  
31, Lombard Street, London, E. C.

For the Continent  
H. P. Moorhouse,  
29, Rue des Petites-Écuries, Paris.

ESTABLISHED 1855.

**Geo. A. Alden & Co.,**

IMPORTERS OF

**India Rubber and  
Gutta Percha,  
170 SUMMER STREET,  
BOSTON.**

*Mention The India Rubber World when you write.*

**India-Rubber (Crude)  
OTTO MEYER,**

New England Representative.

**A. T. Morse & Co.,**

New York.

No. 161 Summer St.,

BOSTON, MASS.

Telephone: 543 OXFORD.

Cable Address: MYERO.

*Mention The India Rubber World when you write.***BARATA & SALVADOR,**

Caixa Postal 380, - MANAOS (Brazil).

IMPORT AND EXPORT MERCHANTS.

SPECIALTIES IN

**Rubber, Balata, Cocoa,**

Piassaba, Hides, Egret Plumes, Balsam of Copaiba,

Andisoba, Tonka Beans, Vanilla, Brazil Nuts, etc.

*Mention The India Rubber World when you write.***GENUINE FOSSIL FLOUR.**

The FOSSIL FLOUR produced and sold only by the FOSSIL FLOUR COMPANY is taken from the only known LIVING deposits. It is mined, purified and reduced to an impalpable powder by a process which is the invention of our Company. This process gives our Fossil Flour a soft smooth texture which has never been equalled. To insure getting material free from grit or impurities, reliable for uniform results, order direct from—

**THE FOSSIL FLOUR COMPANY,**

No. 229 PEARL STREET, - - NEW YORK.

*Mention The India Rubber World when you write.***PEQUANOC RUBBER CO.**

MANUFACTURERS OF

**Pure Reclaimed Rubber**

by an improved mechanical process, without the use of acids, or alkalies. A strictly high-grade superior product, absolutely bone dry, clean and reliable at all times.

Factory and Office: **BUTLER, NEW JERSEY.**

Telephone: 16 Butler.

SAMPLES AND PRICES ON APPLICATION.

*Mention The India Rubber World when you write.***RAYMOND RUBBER CO.,**

MANUFACTURERS OF

NEW YORK OFFICE,  
60 BROAD STREET.**RECLAIMED RUBBER,**

OFFICE AND FACTORIES, TITUSVILLE, NEW JERSEY.

**NEW JERSEY RUBBER COMPANY,**

MANUFACTURERS OF ALL KINDS OF

**RECLAIMED \* RUBBER,**

Auxiliary Plant for Trimmings, daily Capacity of 20,000 Pounds. Total daily Capacity 45,000 Pounds.

Office and Factories, **LAMBERTVILLE, NEW JERSEY.***Mention The India Rubber World when you write.*



ESTABLISHED 1856.

**WILLIAM SOMERVILLE'S SONS,**3, COOPERS ROW,  
LIVERPOOL, ENGLAND.118-120 JOHN STREET,  
NEW YORK, U. S. A.DEALERS IN  
ALL KINDS OF **SCRAP RUBBER.**CABLE ADDRESS: LIVERPOOL MAYFLOWER.  
NEW YORK SOMERVILLE.CODES: A. B. C.  
LIEBERS.*Mention The India Rubber World when you write.***E. BERS & CO.,**

ESTABLISHED 1890.

CABLE ADDRESS:  
BERSANDO, PHILA.  
CODES, A B C, 4TH ED., AND PRIVATE.NEW YORK HOUSE,  
10 1/2 DESBROSSES ST.

COMMISSION MERCHANTS AND DEALERS IN

**SCRAP RUBBER,**

FOREIGN AND DOMESTIC CORRESPONDENCE SOLICITED.

22 AND 24 So. DELAWARE AVE., PHILA.

*Mention The India Rubber World when you write.***WM. H. CUMMINGS & SONS**  
**BUY AND SELL RUBBER WASTE.**Cable Address, P. O. Box 732,  
ENF MOSQUE

54-56 Harrison Street, New York, U. S. A.

*Mention The India Rubber World when you write.***THEODORE HOFELLER & CO.,**

Nos. 98, 100 and 102 TERRACE, BUFFALO, N. Y., U. S. A.

FOREIGN AND DOMESTIC CORRESPONDENCE SOLICITED.

Cable Address, HOFELLER, BUFFALO.

A. B. C. and Lieber's Codes Used.

**LARGEST DEALERS IN OLD RUBBER IN THE WORLD.***Mention The India Rubber World when you write.***FEIST STRAUSS,**EXPORTER OF **WASTE RUBBER and OLD GOLOSHES,****IMPORTER OF RECLAIMED RUBBER.**

Zeil 23, FRANKFORT-ON-MAIN, GERMANY.

Cable Address: "Gutta-Frankfurtmain."

A B C Code, Lieber's Code.

CORRESPONDENCE SOLICITED.

*Mention The India Rubber World when you write.***S. BIRKENSTEIN & SONS**

BUY AND SELL

**SALOMON BROS. & CO.,**

99 NASSAU STREET, - - NEW YORK.

All kinds of **RUBBER SCRAP** All kinds of **RUBBER SCRAP,**

48-50-52 Michigan St., CHICAGO

Boots and Shoes, Solid and Pneumatic Tires,

Air Brake Hose, Buffers, Heavy Rubber.

*Mention The India Rubber World when you write.*BOUGHT **O L D R U B B E R** SOLD

CORRESPONDENCE SOLICITED.

**W. C. COLEMAN**

212 SUMMER ST., BOSTON, MASS.

THEO. S. BASSETT, President.  
MAX LOEWENTHAL, Treasurer.

WALTER T. ROSEN.

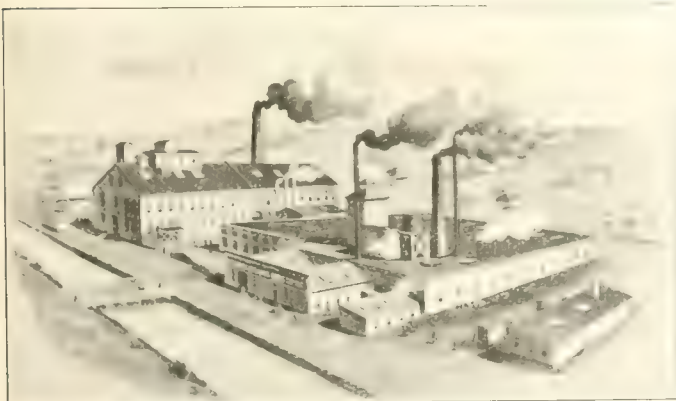
# U. S. RUBBER RECLAIMING WORKS.

## Manufacturers of RECLAIMED RUBBER.

Offices: No. 127 DUANE STREET, NEW YORK.



FACTORY AT BUFFALO, N. Y.



FACTORY No. 1, SHELTON, CONN.



FACTORY No. 2, SHELTON, CONN.

NEW ENGLAND REPRESENTATIVE:

OTTO MEYER, No. 161 Summer Street, Boston.

FOREIGN REPRESENTATIVES:

WM. SOMERVILLE'S SONS, 3, Cooper's Row, Liverpool, England.

Great Britain and the Continent of Europe.

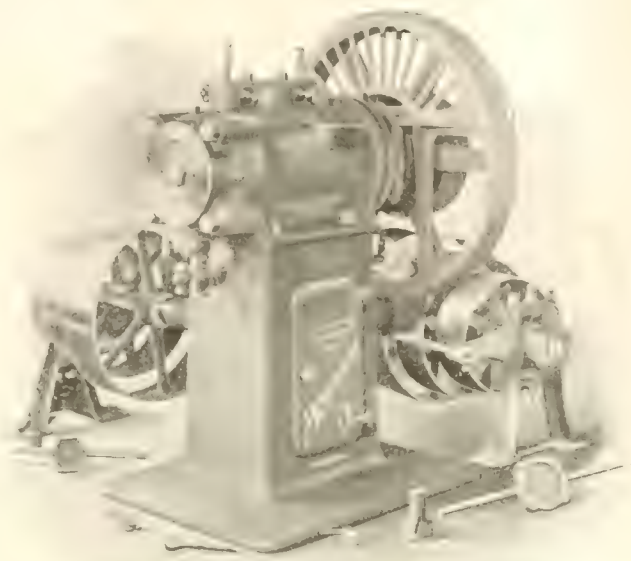
G. BRICE, 92, Rue de la Victoire, Paris, France

Seul Agent Dépositaire. France and Belgium.

*Mention The India Rubber World when you write.*



# Say! Mr. Rubber Man—



Couldn't you do better work if you could depend absolutely upon your Tubing Machines for a steady and a plentiful flow of Compound? If you had Royle Tubing Machines you'd never worry, for they're an antidote for all the woes that the maker of Rubber Goods is heir to. Write and ask about them, for we have the machine you want.

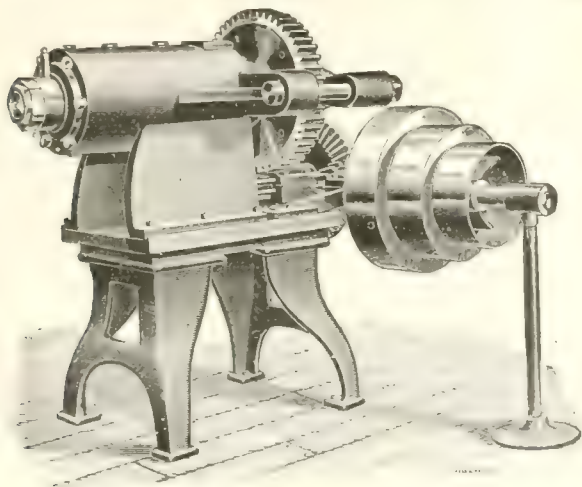
**JOHN ROYLE & SONS, Paterson, N. J., U. S. A.**

*Mention The India Rubber World when you write*

## CLARK'S Reliable Tubing Machine

FOR THE MANUFACTURE OF RUBBER TUBING AND CORD,

And also the Covering of Electrical and Telephone Cables.



MANUFACTURED IN 4 SIZES BY

**EDRED W. CLARK, MACHINIST,**

Rubber Moulds and Rubber Machinery, Screw and Hydraulic Presses a Specialty

No. 31 WELLS STREET, HARTFORD, CONN.

*Mention The India Rubber World when you write*



### JENKINS BROTHERS' VALVES.

Perfectly tight under all pressures of steam, oils or acids. Warranted to give satisfaction under the worst conditions.

Received the **GOLD MEDAL** at the Pan-American Exposition.

Insist on having the genuine stamped with Trade Mark.

JENKINS BROTHERS, New York, Boston, Philadelphia, Chicago.



### THE MASON

## Reducing Valves

ARE THE WORLD'S STANDARD VALVES.

For automatically reducing and absolutely maintaining an even steam or air pressure

*They are adapted for every need and guaranteed to work perfectly in every instance.*

WRITE FOR FULL INFORMATION AND KIDNEY REFERENCES

**THE MASON REGULATOR CO. Boston, Mass., U.S.A.**

### BY RETURN MAIL

Subscribers can learn where to buy any article or class of goods from the manufacturer, publisher or importer per conditions page one, each issue. On trial six months 10 cents. None free under any pretext.

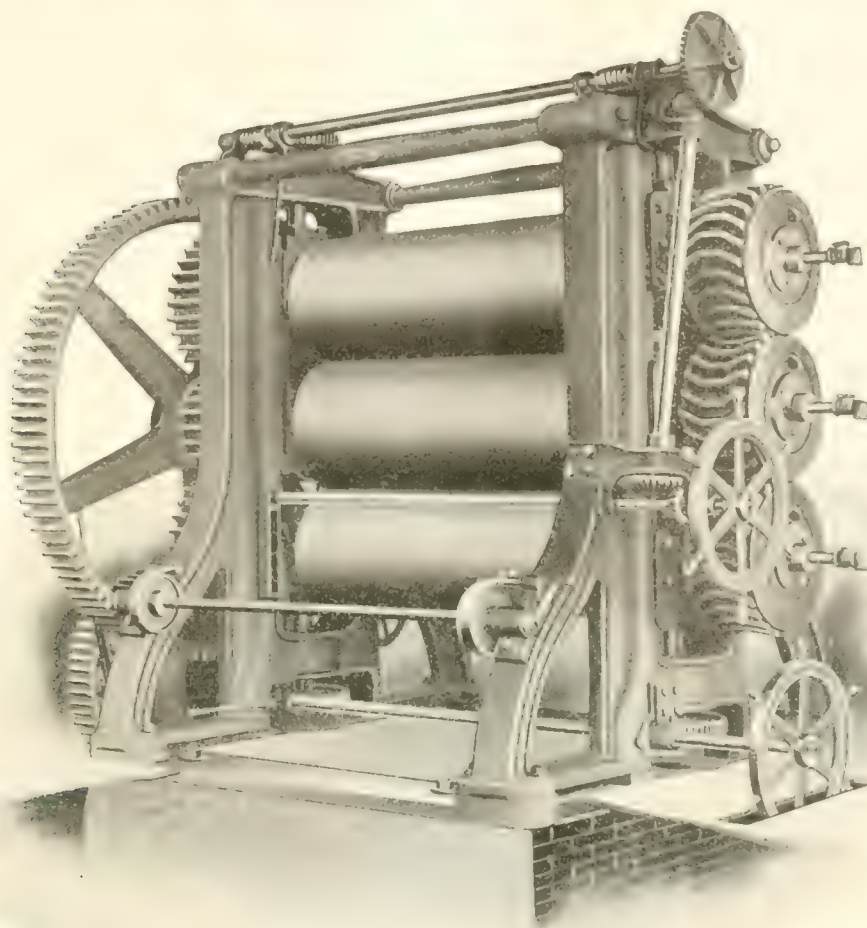
GENERAL INFORMATION, 307 Main St., Binghamton, N. Y.

*Mention The India Rubber World when you write.*

# BIRMINGHAM IRON FOUNDRY,

DERBY, CONN., U. S. A.

Oldest and Largest Makers of RUBBER MILL MACHINERY in the United States.



THREE ROLL CALENDER.

**CALENDERS - GRINDERS - MIXERS**  
**WARMERS - WASHERS - REFINERS**  
**HYDRAULIC PRESSES - HOSE MACHINERY**  
**SPECIAL MACHINERY**

*Mention The India Rubber World when you write*



# AMERICAN TOOL & MACHINE CO.

109 BEACH ST.

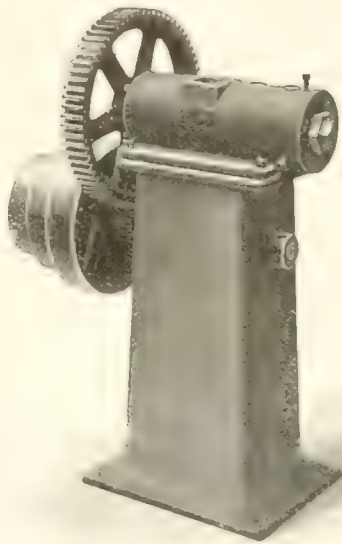
BOSTON MASS.

Double and Single End Spreaders,  
Doubling Machines, Churns, Etc.

WRITE FOR CATALOGUE AND PRICES.

*Mention The India Rubber World when you write.*

*Mention The India Rubber World when you write.*



## Our New 2 Tubing Machine

is provided  
with thrust  
roller bearings  
and cut gears  
and is just  
right for small  
work. . . . .

A. ADAMSON,  
AKRON, OHIO.

Manufacturer of Screw and Hydraulic Presses, Accumulators,  
Jar Ring Lathes, Tubing Machines, Wringer Roll Grinders, Band  
Cutting Machines, Wrapping Machines, Cement Mixers, Molds,  
Steam Traps, etc.

*Mention The India Rubber World when you write.*

Handwork is costly  
and inaccurate.

Anything that the hands can do  
can be done by Machinery.

No Problem is too Difficult for us.

Do you want a Machine for any  
Purpose in Rubber Work?

Write to us and we will Produce it.

WELLMAN SOLE CUTTING MACHINE CO.,  
MEDFORD, MASSACHUSETTS.

A. M. STICKNEY, President.

EDWARD BROOKS, Treasurer.

*Mention The India Rubber World when you write.*



## Rubber Molds and Light Special MACHINERY

Flat Plate Molds for Soft Rubber Goods.

Matrix and Dies for Hard Rubber Specialties.

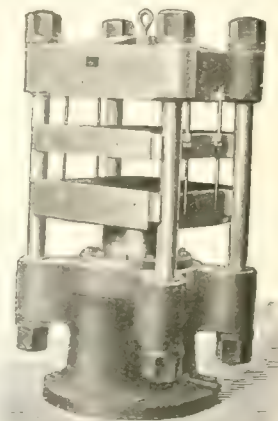
Satisfaction Guaranteed. Prompt Delivery.

EXCELSIOR MACHINE WORKS,

R. H. PROBERT, Proprietor

AKRON, OHIO.

*Mention The India Rubber World when you write.*



ESTABLISHED 1848.

# Farrel Foundry and Machine Co.,

Largest Manufacturers in the World of \_\_\_\_\_

## Rubber Machinery.

ANSONIA, CONN.,  
U. S. A.

FRANKLIN FARREL, PRES  
CHARLES F. BLISS, TREAS  
FRANK E. HOADLEY, SEC



**MULTIPLE HYDRAULIC PRESSES**  
From 12" to 48" square.

**CALENDERS, GRINDERS, MIXERS, CRACKERS, WASHERS,  
WARMERS and REFINERS.**  
**HYDRAULIC BELT PRESSES, with Hydraulic Stretchers,  
MULTIPLE HEEL and SCREW PRESSES, PUMPS,  
ACCUMULATORS and FITTINGS.**

**LINOLEUM MACHINERY**—Calenders, Grinders, Mixers, etc.  
Cabling, Winding, Spooling and Measuring Machines for Insulated Wire.  
Chilled Iron and Sand Rolls of all sizes, Steel and Wrought Iron Rolls.  
Shafting, Machine Moulded Gearing, Friction Clutches, etc.

*Mention The India Rubber World when you write.*



**\$1,500,000****TEN YEAR 6 FIRST MORTGAGE SINKING FUND****GOLD BONDS OF****THE CONSOLIDATED UBERO PLANTATIONS COMPANY****DUE JULY 1, 1912****INTEREST PAYABLE JAN. 1 AND JULY 1****PRINCIPAL AND INTEREST PAYABLE AT THE****INTERNATIONAL TRUST COMPANY, BOSTON****Bonds issued in Coupon Form With Privilege of Registration as to Principal. Each \$500 Bond Carries with it \$500 of Stock****AS A BONUS****DIRECTORATE**

ARTHUR W. STEEDMAN, *President*, City of Boston, George A. Alden & Co., Importers of Ceylon Rubber, Boston, Mass.  
 FREDERICK C. HOOD, *Vice-President*, City of Boston, Hood Rubber Co., Boston, Mass.  
 F. H. NIEBUHR, *Secretary*, United Fruit Co., United States, Indianapolis, Ind.  
 WILLIAM D. OWEN, *Director*, Ex-Secretary of State of Indiana, Indianapolis, Indiana.  
 SENOR THOMAS MOYAN, *Director*, Mexico City, House of Deputies and Director of the New York Life Insurance Co. in Mexico City, Mexico.  
 SEÑOR BERNARDO REYES, *Director*, Prominent Financier, Son of the present Minister of War of the Republic, Mexico City, Mexico.  
 CHARLES A. M. ELLERBONNER, *Director*, City of Pittsburgh, City Produce Co., Importers of Foreign Fruit, Director German National Bank and Western Savings Bank, Pittsburgh, Pa.

**I**N order that the bond holders and stockholders may have as wide a representation as possible, an Advisory Board, composed of twenty-one representative business men, has been formed. These gentlemen will pass upon all questions of importance and make such recommendations to the Board of Directors as may seem warranted in each case.

Five Hundred Thousand Dollars (\$500,000) of this allotment of bonds, is offered for cash and the remaining One Million Dollars (\$1,000,000) on 45 monthly payments. Each payment as made, is secured by issuing to the purchaser a 6 per cent. First Mortgage Sinking Fund Gold Note. These notes recite upon their face that when a purchaser has \$500 worth of them he may exchange them for One (1) \$500 6 per cent. First Mortgage Gold Bond at the INTERNATIONAL TRUST COMPANY, Boston, and receive, at the time of exchange, an equal bonus of stock.

The business of the Company is the growing and marketing of all tropical products, including Oranges, Lemons, Grape and other Citrus Fruits, Yucca, Coffee, Rubber, Pineapples, etc.

The bonds and notes are secured by a First Mortgage upon all the assets of the Company, real and personal, including 6000 acres of land, 1600 of which is under cultivation; a General Store, Merchandise, Residences, Administration Building, Starch Mill, Pineapple Cannery, Tin Can Factory, Bank, Laborer's Quarters, Warehouses, Live Stock, Mules, Cattle, etc., etc., together with all the necessary equipment and machinery to carry on the business of the Company.

**The present actual cash value of the property is \$1,011,062.50.** The money realized from the sale of bonds now offered will be used for further development and acquisitions. The property is located in the richest agricultural district of Mexico, on the Tehuantepec National Railroad, equi-distant from the Gulf of Mexico and the Pacific Ocean.

Yearly Estimated Profits: Guaranteed Interest on Bonds 6 per cent.; Estimated Earning on Stock 3 per cent.; Total 9 per cent. As more development is made and as more crops come into bearing each year, it is confidently expected that the earnings will gradually increase.

We desire to call attention to the fact that the management of THE CONSOLIDATED UBERO PLANTATIONS COMPANY has financed a number of similar propositions in the past. Notably among these are UBERO PLANTATION COMPANY OF INDIANAPOLIS, now in its fourth year and which has paid successively 10, 15 and 20 per cent. the last three years. Also, THE UBERO PLANTATION COMPANY OF BOSTON, which paid a 10 per cent. dividend December 31, 1901, and has declared a dividend of 10 per cent., payable December 31, 1902. Both of these properties are contiguous to those of this Company.

The proposition to the public is a very simple one. You purchase of the Company one bond for each \$500. You can make this purchase for cash or at the rate of \$5 or more per bond, per month. The Company gives you a First Mortgage upon all of its assets, real and personal, to secure whatever money you invest in its bonds. These bonds are due in ten years, but as 70 per cent. of the net earnings each year are paid to the INTERNATIONAL TRUST COMPANY, Boston, Mass., for the redemption of the bonds, some bonds will be redeemed on the first day of each January. This is decided by lot so that your bond may be redeemed on the first day of any January. With each \$500 bond which you purchase, **the Company gives you \$500 of stock as a bonus**, so that when your bond has been redeemed, you still have your investment in the Company represented by your bonus of stock, *which has not cost you a single cent of your own money.* The stock issued as a bonus to the bond purchasers is now earning 3 per cent., and naturally participates more largely in the earnings of the Company after the bonds have been paid, because none of the profits of the Company will then be required to pay interest on the bonds. So that, if no further development was made this same stock will then earn 9 per cent. This, however, must of necessity increase as new crops come into bearing.

For further information, prospectus, copy of legal opinion as to the validity of issue of these bonds, or for blank forms of application, apply in person or by letter to

**THE CONSOLIDATED UBERO PLANTATIONS COMPANY,****No. 89 STATE STREET, BOSTON, MASS.**

## Crude Rubber and Compounding Ingredients.

A Text Book of Rubber Manufacture.

By HENRY C. PEARSON.

It is often a great convenience to have at hand, in convenient form for reference, a book that will remind a man of something which he needs to make use of in his work or business, without waiting to ransack his memory for it no matter how well he may once have learned it. "Crude Rubber and Compounding Ingredients" has been designed to serve just such a purpose. In fact the book was a gradual development of a manuscript reference book originally compiled by the author for his personal use alone. Finding how convenient it was to be able to turn to such a book, instead of having to depend on memory alone for the information it contained, the idea suggested itself that possibly others interested in the rubber industry might find these notes equally serviceable, and this is why they have been developed into a book. The reception of the book has been encouraging, and it may interest some who do not yet possess a copy of the book to know how some practical rubber workers regard it.

A superintendent writes: "It is a work that I want on my desk all the time, as it is surprising how often one wants to refer to it."

The manager of an important concern writes of the book: "Its value has grown on me; I now keep it by me in the factory and use it constantly, both for reference and suggestion."

THE INDIA RUBBER PUBLISHING CO.,

No. 150 Nassau Street, - - - New York.



SPECIALLY ADAPTED

for all purposes in

## Rubber Manufacturing

State your REQUIREMENTS and we will be pleased to give you the results of our 15 years experience.

HOHMANN & MAURER MFG. CO.,  
ROCHESTER, N. Y., U. S. A.

Send for Illustrated Catalogue R.

London: 57 D, Hatton Garden, E. C. New York: 85 Chambers St.  
Chicago: 119 Lake St.

## THE RUBBER TRADE CAN SAVE MONEY EVERY DAY

—in telegraphing orders for goods, or in responding to orders, by using the

## RUBBER CODE,

Containing about 22,000 words and phrases, relating distinctly to the trade, and code addresses of leading houses in all branches of the Rubber Trade throughout the world. *It is international in scope.* It can be used in connection with any standard telegraph code system not containing Official Vocabulary words beginning with the letter A. Every Rubber man is invited to give it an examination. The price is

**TEN DOLLARS PER COPY.**

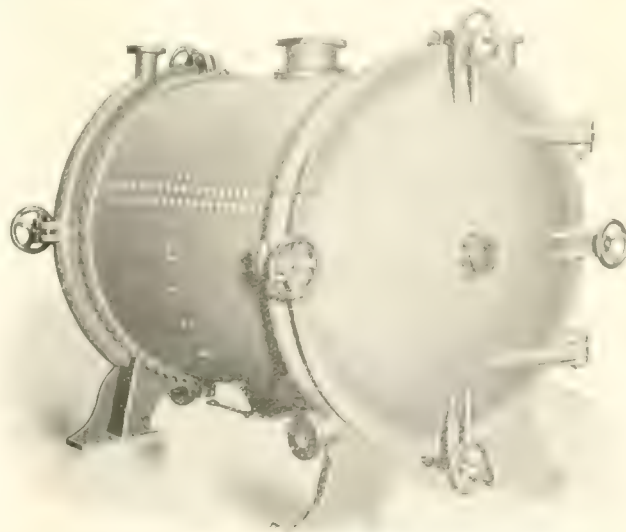
PUBLISHED BY THE  
INTERNATIONAL CABLE DIRECTORY CO.,  
No. 17 STATE STREET, - NEW YORK.

Mention The India Rubber World when you write.

## VACUUM DRYING MACHINES.

STATIONARY AND ROTARY.

Sheet and Shoddy Rubber and Chemicals can be Dried in a Few Hours at Low Temperature. No Oxidation, Burning, or Melting of the Material. Large Drying Capacity of Several Charges per Day. Exhaust Steam or Hot Water for Heating. No other Drying System so Economical in Time, Space, and Steam.



AMERICAN VACUUM DRYING MACHINE CO.,  
WORKS: NEW HAMBURGH, N. Y.

Testing Station and Office: 120 LIBERTY ST., N. Y. CITY.

Our Laboratory Vacuum Apparatus is suitable for Practical Drying Tests.

WARNING: INFRINGEMENTS ON OUR PATENTS WILL BE PROSECUTED.

Mention The India Rubber World when you write.



# Small Advertisement Department.

## SITUATIONS OPEN.

**SUPERINTENDENT** wanted, familiar with all departments of manufacture of Rubber Footwear, especially of the "Sole" and "Heel" and "Lining", etc., and capable of supervising the plant. Care of THE INDIA RUBBER WORLD. [359]

**WANTED.**—An experienced head of the factory, capable of weaving Cotton Jackets for Tire Hoses. Good of the factory, and of the previous experience and wages expected. Address B. K. L. care of THE INDIA RUBBER WORLD. [360]

**WANTED.**—Man who thoroughly understands the manufacture of Golf Balls and is capable of fitting up and starting a factory for the same. Address B. K. L. care of THE INDIA RUBBER WORLD. [361]

## Wanted for Europe.

**FOREMAN** perfectly familiar with the manufacture of rubber shoes and especially with complete knowledge of mixing varnish and the vulcanisation. Address GALOCHE, care of "The India Rubber World."

## SITUATIONS WANTED.

**DRUGGISTS' SUNDRIES.**—A man of unquestionable ability in manufacturing Mechanical Rubber Goods, Druggists' Sundries, and Tires of all descriptions, wishes to enter new connection, and to secure the best facilities and guarantee the best of results compatible with given facilities. Best of references from last employer. Address STEEL, care of THE INDIA RUBBER WORLD. [360]

**FOREMAN** would like to change to go with some respectable firm; is thoroughly competent on all sorts of Molded Goods, Wires, and Lathe Work, Rolls, Tires, Tubing, and Packing of every description; also Belts, Hose, etc.; has over 22 years' experience; formulas of any grade, and some rare specialties; is strict and laboriously helpful in up-to-date work in all its branches. Address FOREMAN, care of THE INDIA RUBBER WORLD. [361]

**GERMAN RUBBER WORKER**, specialist in all branches of technical engineering necessities, having a thorough experience of 12 years' night work in this country; seeks early employment. Good German references. Address ADOLF SANDER, care of THE INDIA RUBBER WORLD. [370]

**MECHANICAL ENGINEER.**—Young man who has had experience on Rubber Machinery would like a position with a Rubber factory. References furnished. Address N. V. Z., care of THE INDIA RUBBER WORLD. [368]

**SITUATION** wanted by an experienced man of Molded Goods and of Hands of Rubber Surface Goods. Understands Compounds, Spreading, and Vulcanizing; capable of taking full charge. 15 years' experience. Address GOM, care of THE INDIA RUBBER WORLD. [365]

**SPREADER MAN.**—Work wanted by an experienced man in waterproofing factory, on English Spreader or Yankée Plier, or any other spreading work. Address SPREADER, care of THE INDIA RUBBER WORLD. [364]

**SUPERINTENDENT.**—A young man of 26 years' practical factory and business experience wants position as Superintendent of factory making mechanical Goods, Tires of any kind, or Druggists' Sundries. Also acquainted with Hard Rubber making. Able to take full management of large factory. Up-to-date in office systems, as well as Machinery, Methods of Construction, Compounds, and handling of material. Have new and patented process for making continuous length solid vehicle tires with two or more wires, that is simple and economical, reducing cost 5 cents or more per cord. Now in use, but would change under right conditions and prospect, at the best of compensation. Address TO BE, care of THE INDIA RUBBER WORLD. [339]

**SUPERINTENDENT.**—Wanted, position as Superintendent of Mechanical Rubber Goods factory. Have had 22 years' experience in all lines of rubber goods; am capable Manager with executive ability; have all kinds of compounds, thoroughly competent and a hustler. Best of references. Address HESTER, care of THE INDIA RUBBER WORLD. [367]

**SUPERINTENDENT.**—Wanted by an experienced person to superintend the manufacture of Mechanical Rubber Goods, and of Rubber Surface Goods. Have 15 years' experience in all lines of rubber goods manufacturing. Up-to-date in office systems, as well as Machinery, Methods of Construction, Compounds, and handling of material. Address RAILROAD, care of THE INDIA RUBBER WORLD. [371]

## WANTED.

**WANTED.**—A good Vulcanizer. State size and price. Address Box 502, STAMFORD, CONN. [359]

**WANTED.**—One good second hand Mixer; chilled rolls. Can use most any standard size. Give full description of same and price. Address E. L. B., care of THE INDIA RUBBER WORLD. [360]

**WANTED.**—One small second hand Rubber Grinder. Send description and price to ELLIOT W. CLARK, 31 Wells street, HARTFORD, CONN. [372]

## FOR SALE.

**ALL KINDS RUBBER WASTE.**—We sell at low price, pure unvulcanized Rubber Scrap from Cement Waste. Write for free sample. Best cash prices paid for rubber scrap and waste. Old Wringer Rolls bought and sold a specialty. UNITED STATES RUBBER CO., No. 487 N. Warren avenue, Brockton, Mass.

**FOR SALE CHEAP.**—A large Accumulator, 70,000 pounds weight, ran measures 5 1/2 in. diameter x 8 1/2 ft. long, in perfect working order. Address ACCUMULATOR, care of THE INDIA RUBBER WORLD. [358]

**FOR SALE.**—One complete Spreading Plant for Mackintosh Goods and Hospital Sheeting. Located in New York city, in good running order. Can be seen at any time by appointment. Address, LIBERTY, care of THE INDIA RUBBER WORLD. [373]

## BUSINESS OPPORTUNITY.

**MAX PETERSEN**, 39, Østergade, Copenhagen, Denmark, Manufacturers' Agent, wishes to represent first class American house in Scandinavia. Import and Export. Free port facilities for Russian and Scandinavian trade. Address, MAX PETERSEN, 39, Østergade, Copenhagen, Denmark. [347]

## RUBBER PLANTING EXPERT.

**AN** Expert in the Cultivation and Curing of Rubber is open to an engagement in any part of the world. Highest prices obtained, in the world, for Rubber cured by my method. Also thorough experience (twelve years) in Cocoa, Vanilla, Pepper, Coffee, Tea, Cocomanuts, etc.; buildings, machinery, and surveying. Samples of Rubber and Press Notices with the Editor. Small salary will not be accepted. Address PARA, care of THE INDIA RUBBER WORLD. [351]

## DR. PETER T. AUSTEN

**COUNSEL AND EXPERT IN MANUFACTURING CHEMISTRY.** Processes, Formulas, Products, Patents, Wastes, Costs, Nuisances, etc. Experimental Tests and Investigations. Expert in Patent and Technical Litigation. 80 BROAD STREET, NEW YORK.

**Herbert S. Kimball**, 101 Tremont Street, Boston, Mass.  
**Chemical Engineer and Mill Architect.**  
Engineering Problems Relating to the Rubber Industry.

Designs for Buildings and Equipment.

Mention The India Rubber World when you write.

# Would-be Rubber Planters May Save Money.

**ASHMORE RUSSAN**, of 46, Leadenhall street, London, England, expert in the cultivation of tropical products, as Coffee, Cacao, Sugar-cane, Tobacco, etc., with special knowledge of India-rubber cultivation and collection in Mexico, Brazil, Africa, etc., is open to examine and report upon virgin lands or plantations in any part of the world. Terms, references, and specimen reports on application, as above.

DR. HEINR. TRAUN &amp; SÖHNE, AGRMALS

# HARBURG RUBBER COMB CO.

THE LARGEST MANUFACTURERS OF

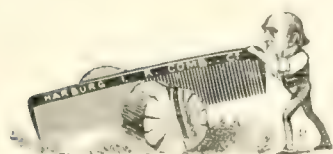
## HARD RUBBER GOODS

IN THE WORLD.

Factories at Hamburg (Germany), and Harburg a/E. (Germany).

Average number of hands employed about 1400.

### DEPT. K.



The "Sawing-Man" Comb.

The "Olive Dore" Comb.

The "Helios" Comb.

(Patented ....)

The new "Reform" Comb.

### DEPT. G.



Hard Rubber Goods of all descriptions for electrical and surgical purposes. Sheet, Rod, Tubing, Insulators, Telephone Receiver Shells, Push Buttons, Speaking Tube Mouthpieces and Whistles, Bobines, Keys, Bushings, etc.

### TRAUN'S IDEAL STEAM PACKING.

### DEPT. S.

Smokers' Goods and Stationery Sundries, Pipes, Pipe Bits, Cigar Holders, Cigarette Holders, Match Safes, Umbrella Handles, Penholders, Rulers, Angles, Curves, Inkstands, etc.

### DEPT. G. P.

Gutta-Percha Tissue, the celebrated "Hammonia" brand Gutta-Percha Acid Bottles, Jugs, Tubing, and all other Gutta-Percha Goods.

*A full stock of Combs is always on hand in New York.*

HEADQUARTERS FOR THE UNITED STATES AND CANADA:

**SCHRADER & EHLERS, 335 Broadway, NEW YORK, U. S. A.**

CORRESPONDENCE INVITED.

## TRAUN RUBBER COMPANY

(EXCELSIOR RUBBER WORKS)

Factory: COLLEGE POINT, N. Y. Office: 335 Broadway, NEW YORK.

MANUFACTURERS OF SPECIALTIES IN

Fine Druggists' Sundries, Bulb Syringes, Tubing, Rubber Bands, Bandages, Nipples, Atomizers, Dental Dam, Dental Rubber, Stamp Rubber.

*Mention the India Rubber World when you write*



# J. H. LANE & CO.,

BOSTON.

CHICAGO.

110 WORTH ST., NEW YORK.

PHILADELPHIA.

LONDON.

HOSE  
BELT  
SAIL  
WIDE

**DUCKS**

PAPER FELTS  
OUNCE GOODS  
ARMY DUCK  
OSNABURGS

**SHEETINGS  
DRILLS**

**TIRE FABRICS**

SEA ISLAND, EGYPTIAN, AND PEELER YARNS, AND FABRICS IN  
REGULAR AND SPECIAL CONSTRUCTION.

*Mention The India Rubber World when you write.*

## NOT INJURED BY OIL

It won't cost  
you a  
cent to test  
"Royal Worcester"  
Belting.

We will send sample belt for testing on your own machinery, absolutely free of cost to you. Puts you under no obligation whatever to buy unless you decide for yourself that it is the best and most economical belt for you to use.

REMEMBER: Royal Worcester Belts—choice selection of hides tanned old-fashioned, pure oak process, cut not over 18 inches from centre, nor more than 54 inches long. Guaranteed not to stretch, sag, or give trouble.

**GRATON & KNIGHT MFG. CO.,**

*Oak Leather Belt Makers, Worcester, Mass.*

*Mention The India Rubber World when you write.*

**Vulcanizers of all sizes,**  
**CALENDERS, GRINDERS, MIXERS AND WASHERS,**  
**Hydraulic and Screw Presses,**  
**Hydraulic Pumps and Accumulators.**

## The **STURTEVANT** **SYSTEM** of **RUBBER DRYING**

is rendered positive by a forced circulation of warm air. The time is reduced one-half and the product improved. The same system, giving thorough ventilation, is used

for heating factory buildings, offices, etc.



**B. F. STURTEVANT**  
**COMPANY,**

**BOSTON, MASS.**

NEW YORK. CHICAGO.

PHILADELPHIA LONDON

284

*Mention The India Rubber World when you write.*

**THOS. F. STEVENSON,**

**120 LIBERTY ST., NEW YORK.**

Correspondence solicited. Several second-hand Calenders and Grinders for sale.

*Mention The India Rubber World when you write.*

# RUBBER SUBSTITUTES.

Our Proofing Substitute is recognized and adopted as Standard by the Trade.

WE MAKE ALL KINDS OF SUBSTITUTE TO ORDER—A SPECIALTY.

**BONNER MANUFACTURING CO., 160-162 High Street, Boston, Mass.**

*Mention The India Rubber World when you write.*

# Publishers' Page *INDIA RUBBER WORLD*

OFFICES:

No. 150 NASSAU ST., NEW YORK

## A VISIT TO THE RUBBER PLANTATIONS.

BEGINNING with the May issue of THE INDIA RUBBER WORLD, there will appear the first of a series of articles, entitled "A Trip Through the Tierra Caliente," which will be a record of the personal observation of the Editor during a recent trip to the rubber plantations in southern Mexico. The articles will be well illustrated, and will describe typical plantations and the various conditions that surround the pioneer work in the country named.

## A Calendar for Advertisers.

THE calendar for the current month which appears on this page is commended to the attention of advertisers in THE INDIA RUBBER WORLD who may desire a change in their announcements in the forthcoming issue. We have always hesitated to fix any arbitrary rule as to the latest date in the month on which advertising copy will be received, for reasons may develop, just before the printing of the paper, to make a change of advertisement desirable. At the same time, it will add to the convenience of the business office if those who intend sending in advertising "copy" will consider, not the latest date on which it can be handled, but the earliest date on which it can be furnished. It has happened that copy for changes has been received so late that, in attempting to accommodate our patrons, the issue of the paper has been delayed, while in other instances it has been necessary to delay printing the change for a whole month, to another issue. It would be desirable if changes for any advertisement now standing in the paper, intended for our May issue, should reach us not later than April 23—the date marked on the calendar herewith.

## Mr. Pearson Buys Mr. Pearson's Book.

THE following order, though not addressed precisely in accordance with our firm style, reached THE INDIA RUBBER WORLD office without delay, and it is to be hoped that the book referred to, which has been despatched to South Africa, will arrive as promptly at its destination:

DEPARTMENT OF AGRICULTURE, NATAL.

Pietermaritzburg, February 11, 1903.

*Gentlemen:* I shall be glad if you will kindly forward to this office a copy of the book "Crude Rubber and Compounding Ingredients," for which I enclose an order. Please render your account to this office on form "B" thereof.

I have the honor to be,

Sir,

Your Obedient Servant,

A. N. PEARSON,

Director of Agriculture.

Messrs. PEARSON, LTD.,  
150, Nassau Street,  
New York, U. S. A.

## A Subscriber Who Wants Every Number.

THE manager of The English and American Rubber Co., Lille, France, in renewing his subscription to THE INDIA RUBBER WORLD, writes:

"I hope this money will reach you safely, as I would not miss one number of your valuable paper."

## A Book that is "Up to Date."

"We failed to appreciate from the advertisements of 'Crude Rubber and Compounding Ingredients' that it was really so well up to date as an examination of your book has shown it to be. We should suggest that in future advertisements of it, you emphasize the fact that it embodies the latest practice in the rubber industry."

## For the Rubber Man's Library.

A BOUND volume of THE INDIA RUBBER WORLD containing the twelve monthly numbers issued during a year not only contains more reading matter than can be found in any other book devoted to India-rubber and allied interests, but represents the work of more persons qualified to write upon these topics and covers a wider range. THE INDIA RUBBER WORLD for the twelve months ending September 1, 1902, contains more than the usual number of articles of a practical character on the processes and factory equipment of the rubber industry, from the pens of experts. There are also many articles, illustrated as a rule, describing new applications of rubber. The paper is a complete record

of the important news of the trade during the year in all lands—relating to the establishment of new companies, changes in old ones, election of officers, financial reports, etc. The reports bearing upon the market conditions of crude rubber are explicit and accurate. The paper is also a complete record of progress in rubber planting. Among other features of the paper is a record of United States and foreign rubber patents. This information may be of most value as supplied month after month to our subscribers, but much of it is worth preserving for future reference, and for this purpose the journal should be in bound form. The price of these volumes is \$5 each, prepaid. Volumes for former years can also be supplied.

APRIL ÷ 1903						
SUN.	MON.	TUES.	WED.	THU.	FRI.	SAT.
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

## From a Rubber Planting Company.

TO THE INDIA RUBBER WORLD—*Gentlemen:* We were pleased to receive a copy of your publication, and wish to subscribe for the same. The magazine is one of great interest to us, and will prove of considerable value in carrying on our business. - - - - Yours very truly,

THE LA LUISA DEVELOPMENT CO.

Chicago.

## Praise From a High Source.

TO THE INDIA RUBBER WORLD—*Gentlemen:* Your paper has been recommended to me by Messrs. David Williams & Co., of *The Iron Age* as the best journal that deals with the rubber trade. I would, therefore, like to subscribe for your journal, and also advertise in it. Send me rates. Yours truly,

Toronto, Ontario.

## "The India Rubber World" for Home Reading.

A LETTER to THE INDIA RUBBER WORLD from an important rubber factory in Germany says:

"We are subscribers to your estimable journal, but wish to subscribe for a second copy, to be sent to the private address of our Director" [after which follows the address] "Please let us know how much the subscription, including postage, amounts to."



# \$1,200 a Year for Life

Secured by Small Monthly Payments.

Crude rubber is today worth twice as much as it was ten years ago. Everybody knows that a pound of rubber is worth more than a bushel of wheat. Its uses are constantly increasing and it is increased from year to year. Every industry, every science, fully finds some new purpose for it, for which nothing else will answer. It is indispensable to our modern civilization, wheat, or coal, or cotton. Yet its production is still so primitive and uncertain that it was not until the Goodyear method made rubber a commercial proposition.

The world's present inadequate supply of rubber is gathered by tapping wild rubber trees that are scattered here and there in the jungles of American tropics. The ignorant and improvident natives, who are engaged in this pursuit, have been "tapped" to death, the trees untrained, because of the climate, by white supervision. Because they have to penetrate the forest and further into the jungle each year, at an added cost of time and money, and because the supply of the wild trees, in answer to the incessantly increasing demand, is rapidly vanishing, the price of crude rubber has doubled in the last decade.

Rubber, indispensable as wheat, or cotton or coal. American manufacturers alone consume annually sixty million pounds of crude rubber worth at least forty million dollars. Yet the supply falls short of the demand.

We have 175 acres of the finest rubber land in the world and with the finest climate. On this land we are changing the production of crude rubber from the primitive and destructive method now employed by the natives to the most scientific and economic plan known to modern forestry.

An acre of rubber trees brought into bearing in our land will produce a net income of from \$200 to \$300 a year for more years than you can possibly live. These figures are not paper estimates, and they are not ours. They are based on results now being actually obtained in scientific rubber culture and they are proven by the most reliable sources of information in the World:—the Government reports of the United States and Great Britain.

You cannot name any article of world wide use whose production has undergone so radical a development as we are now engaged in without vastly enriching those interested in the change.

The remarkable opportunity is now open for securing shares in this great enterprise, each share representing an undivided interest equivalent to an acre of land in our orchard.

There is no large cash down payment, as the purchaser pays for the land in modest monthly instalments running over two development period.

Every possible safeguard surrounds this investment. You are fully protected against loss in case of lapse of payment or increase of death, and you are granted a suspension of payments for ninety days at any time you wish. Furthermore, we agree to loan you money on your shares.

If we can prove to you that five shares in this investment, paid for in small monthly instalments, will bring you an average return of TWENTY-FIVE PERCENT ON YOUR MONEY DURING THE PERIOD OF PAYMENT, and then bring you \$1,200 A MONTH FOR MORE THAN A LIFETIME, we could not keep you out. Send us \$20 as the first monthly payment to secure five shares; \$40 for ten shares; \$100 for twenty-five shares (\$4 per share for as many shares as you wish to secure). This opens the door for yourself, not to wealth, but what is far better, a competency for future years, when perhaps you will not be able to earn it. We already have hundreds of shareholders scattered through forty states, who have investigated and invested. Our literature explains our plan fully and concisely, and proves every statement. It will be sent to you immediately, on request.

Mutual Rubber Production Co.

91 Milk Street, BOSTON, MASS.

## Recording Thermometers FOR Vulcanizers.



No. 300

Made with extensions to go through wall of vulcanizer and register without the opening of door.

Manufactured exclusively by

HELIOS-UPTON CO.,

PEABODY, MASSACHUSETTS.

Mention the India Rubber World when you write.

## RUBBER AND COFFEE LANDS.

THE Mexican Land and Colonization Company owns several hundred thousand acres of land suitable for Rubber and Coffee in the State of Chiapas, Mexico. The majority of the coffee plantations in Soconusco now producing largely were originally purchased from this Company also La Zacualpa and other rubber plantations.

For further particulars apply to

O. H. HARRISON,

Spreckels Annex, 713 Market Street, SAN FRANCISCO.

Mention the India Rubber World when you write.

## Mexican Lands.

TO individual purchasers or plantation companies I will sell at rock bottom prices Rubber and Tropical Plantation lands in the states of Vera Cruz, Oaxaca, Tabasco, and Chiapas, in tracts to suit, from 1,000 to 1,000,000 acres. All statements as to title and value guaranteed.

I have 1,000,000 acres of heavily timbered rubber lands that I can subdivide if desired, in the heart of the Rubber, Mahogany, Cedar, and Tropical Woods country on the largest river in Mexico, with a magnificent saw milling and manufacturing site. It is proposed to cut off the timber,—taking care of the Rubber trees now growing and planting new ones, that will in a few years make a magnificent rubber forest at practically no cost. Address—

J. J. FITZGERRELL, 1a. San Francisco, No. 7, Mexico City, Mexico, or

M. M. FITZGERRELL, 810 Olive Street, St. Louis, Missouri.

Mention The India Rubber World when you write.



# BUYERS' DIRECTORY OF THE RUBBER TRADE.

CLASSIFIED LIST OF MANUFACTURERS AND DEALERS IN INDIA-RUBBER GOODS AND RUBBER MANUFACTURERS' SUPPLIES.

## INDEX TO ADVERTISERS.

NAME.	PAGE.
Adamson, A.	XXXIV
Akron Commercial Co.	XX
Akron Rubber Works.	XIX
Alden Rubber Co.	XX
Alden & Co., Geo. A.	XXIX
American Hard Rubber Co.	XX
American Tool & Machine Co.	XXIX
American Vacuum Drying Machine Co.	XXXVII
Atlas Chemical Co.	XXIII
Austen, Peter T.	XXXVIII
Bailey & Co., C. J.	XIV
Barigan Rubber Co., Jos.	XVI
Barborton Rubber Wks.	I
Barata & Salvador.	XXIX
Barrett Mfg. Co.	XXIV
Battelle & Kenwick.	XXVII
Bers & Co.	XX
Birkenstein & Sons, S.	XX
Birmingham Iron Foundry.	XXIII
Bloomington Soft Rubber Wks.	XXV
Bonner Mfg. Co.	XL
Boomer & Boschert Press Co.	XXIV
Boston Belting Co.	XXII
Boston Woven Hose & Rubber Co.	V
Brooks Bros. & Co.	XXIX
Cable Rubber Co.	II
Cabot, Samuel.	II
Cantor, Joseph.	XXVII
Chicago Rubber Wks.	XX
Chicago Tire & Rubber Co.	XXV
Clark, Edred W.	XXXII
Cleveland Rubber Wks.	XX
Combination Rubber & Belting Co.	X
Conant Rubber Co.	XXIII
Consolidated Ubero Plantations Co.	XXXVI
Continental Caoutchouc & Gutta Percha Co.	IV

Cravenette Co., Ltd.	I
Cummings & Sons, Wm. H.	XXX
Coleman, W. C.	XXX
Crecent Belting & Packing Co.	VI
Davidson Rubber Co.	XIV
Davol Rubber Co.	XIV
Egestorff's (Georg) Salzwerke.	XXVII
Empire Rubber Mfg. Co.	IV
Eureka Fire Hose Co.	IV
Excelsior Machine Wks.	XXIV
Farrar Foundry & Machine Co.	XXXA
Faultless Rubber Co.	XIV
Fitzgerrell, J. J.	XXII
Fossil Flour Co.	XXIX
General Information.	XXXII
Goodrich Co., B. F.	XXIX
Gorham Rubber Co.	LI
Grattan & Knight Mfg. Co.	LI
Granby Rubber Co.	LI
Gutta Percha & Rubber Mfg. Co.	LI
Gutta Percha & Rubber Mfg. Co., Toronto.	LI
Hall & Co., D. C.	XXIII
Harrison, O. H.	XXIII
Heddes-Upton Co.	XXII
Hodgman Rubber Co.	VI
Hofeller & Co., Theodore.	XXX
Hoggson & Pettis Mfg. Co.	XXIV
Holman & Maurer Mfg. Co.	XXXVII
Holman, Leonard & Co.	XXIII
Home Rubber Co.	IX
Hood Rubber Co.	LI
India-Rubber Pub. Co.	XXXVII, XL
International Cable Directory Co.	XXXVII
Jenkins Bros.	XXXII
"Journal d'Agriculture Tropicale"	XXXVIII
Kimball, Herbert S.	XXXVIII
Kokomo Rubber Co.	X

La Crosse Rubber Mills Co.	XXII
Lake Shore Rubber Co.	XX
Lane & Co., J. H.	XXI
La Zama Rubber Plantation Co.	XXIX
Liverpool Rubber Co., Ltd.	XXV
Lyon Rubber Co.	XX
McGorty, Philip.	XXVII
Manhattan Rubber Mfg. Co.	XXI
Manufactured Rubber Co.	XXI
Mason Regulator Co.	XXVII
Massachusetts Chemical Co.	XXVI
Mechanical Rubber Co.	XX
Meyer, Otto.	XXIX
Milford Rubber Co.	XXIII
Morris & Co.	XXIV
Morse & Co., A. T.	XXIX
Mutual Rubber Production Co.	XXII
New Century Rubber Co.	XXVI
New Jersey Car Spring & Rubber Co.	X
New Jersey Rubber Co.	XXIX
New Jersey Zinc Co.	XXVI
New York Belting & Packing Co.	XX
New York Rubber Co.	VIII
Peerless Rubber Mfg. Co.	XXVII
Pennsylvania Rubber Co.	XII
Pequannoc Rubber Co.	XXIX
Philadelphia Rubber Wks.	XXVIII
Pleher Lead Co.	XXI
Plymouth Rubber Co.	XXIII
Pure Gum Specialty Co.	XV
Raymond Rubber Co.	XXIX
Republic Rubber Co.	XXIX
Revere Rubber Co.	LI
Royle & Sons, John.	XXIII
Rubber Specialty Co.	XXIV
Rubber Trading Co.	XXI
Russan, Ashmore.	XXXVIII
Russian-American India Rubber Co.	XXV

Salomon Bros. & Co.	XXX
Schrader & Ehlers.	XXIX
Shelp Mfg. Co., Henry H.	XXIII
Sherman Mfg. Co., H. B.	X
Singer Manufacturing Co.	II
Somerville's Sons, Wm.	XXX
Spealight, Geo. W.	I
Stamford Rubber Supply Co.	XXVI
Stedman & Co., Inc., J. H.	I
Stevenson, Thos. F.	XXI
Stokes Rubber Co., Jos.	XXIII
Strauss, Feist.	XXX
Sturtevant Co., B. F.	XX
Taintor Mfg. Co., H. F.	VII
Terry, H. L.	XXVII
Textile-Finishing Machinery Co.	XXIV
Thropp, William R.	XXIV
Toch Bros.	XXVI
Traut Rubber Co.	XXIX
Traut & Sons, H.	XXIX
Trenton Rubber Mfg. Co.	XXI
"Tropical Agriculturist"	XXXVIII
Tyer Rubber Co.	LI
Typke & King.	XXVII
United States Rubber Co.	XXII
U. S. Rubber Reclaiming Wks.	XXVI
Voorhees Rubber Mfg. Co.	V
Wanted and For Sale.	XXXVIII
Weed & Co., E. B.	XXVII
Weld Mfg. Co.	I
Wellman Sole Cutting Machine Co.	XXIV
Western Rubber Co.	XXII
Williams Foundry & Machine Co.	XXIV
Whaley & Co., W. B. Smith.	XXIV
White, T. & S. C., Co.	XXVII
Whitman & Barnes Mfg. Co.	VIII
Woodman, Ph. D., Durand.	XXVII
Yatman Rubber Co.	XXV
Yerdon, William.	XXIII

## MECHANICAL RUBBER GOODS

Belting.  
Diaphragms.  
Gaskets.  
Gauge Glass Washers.  
Hose (Fire, Garden, Steam).  
Mats and Matting.  
Mould Work.  
Packing.  
Valves.  
Washers.

### Mechanical Rubber Goods—General.

Alden Rubber Co., Barborton, O.  
Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Chicago Rubber Wks., Chicago  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.  
Continental Caoutchouc & Gutta-percha Co., Hanover, Germany.  
Crecent Belting & Packing Co., Trenton, N. J.  
Empire Rubber Mfg. Co., Trenton, N. J.  
Eureka Fire Hose Co., New York.  
B. F. Goodrich Co., Akron, O.  
Gorham Rubber Co., San Francisco and Seattle.  
Gutta Percha & Rubber Mfg. Co., N. Y.  
Gutta Percha & Rubber Mfg. Co., Toronto.  
Home Rubber Co., Trenton, N. J.  
Lake Shore Rubber Co., Erie, Pa.  
Liverpool Rubber Co., Liverpool, Eng.  
Manhattan Rubber Mfg. Co., New York.  
Mechanical Rubber Co., New York.  
National India Rubber Co., Providence.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
New York Belting & Packing Co., N. Y.  
New York Rubber Co., New York.  
Peerless Rubber Mfg. Co., New York.  
Pennsylvania Rubber Co., Erie, Pa.  
Republic Rubber Co., Youngstown, Ohio.  
Revere Rubber Co., Boston.

### MECHANICAL GOODS.

Russian-American India Rubber Co.  
Jos. Stokes Rubber Co., Trenton, N. J.  
Trenton Rubber Mfg. Co., Trenton, N. J.  
Voorhees Rubber Mfg. Co., Jersey City.  
Western Rubber Co., Goshen, Ind.  
Whitman & Barnes Mfg. Co., Akron, O.  
**Air Brake Hose.**  
Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Combination Rubber & Belting Co.  
Crecent Belting & Packing Co., Trenton, N. J.  
N. J. Car Spring & Rubber Co., Jersey City.  
Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, Ohio.  
Revere Rubber Co., Boston-New York.  
Voorhees Rubber Mfg. Co., Jersey City.  
Whitman & Barnes Mfg. Co., Akron, O.  
**Belting (Cotton).**  
Boston Woven Hose & Rubber Co.  
Eureka Fire Hose Co., New York.  
Peerless Rubber Mfg. Co., New York.  
Revere Rubber Co., Boston-New York.  
**Belting (Thresher).**  
Boston Woven Hose & Rubber Co.  
Combination Rubber & Belting Co.  
Crecent Belting & Packing Co., Trenton, N. J.  
Peerless Rubber Mfg. Co., New York.  
**Billiard Cushions.**  
Alden Rubber Co., Barborton, Ohio.  
Boston Belting Co., Boston.  
Combination Rubber & Belting Co.  
B. F. Goodrich Co., Akron, O.  
Manhattan Rubber Mfg. Co., New York.  
New York Belting & Packing Co., Ltd.  
New York Rubber Co., New York.  
Revere Rubber Co., Boston-New York.  
Whitman & Barnes Mfg. Co., Akron, O.  
**Blankets—Printers'.**  
Boston Belting Co., Boston.  
Hodgman Rubber Co., New York.  
Liverpool Rubber Co., Liverpool, Eng.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
Revere Rubber Co., Boston-New York.

### MECHANICAL GOODS.

Voorhees Rubber Mfg. Co., Jersey City.  
**Boss Washers.**  
Combination Rubber & Belting Co.  
**Brushes.**  
American Hard Rubber Co., New York.  
Boston Woven Hose & Rubber Co.  
C. J. Bailey & Co., Boston.  
**Buffers.**  
Boston Belting Co., Boston-New York.  
Combination Rubber & Belting Co.  
Crecent Belting & Packing Co., Trenton, N. J.  
Liverpool Rubber Co., Ltd., Liverpool  
**Carriage Mats.**  
Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Combination Rubber & Belting Co.  
Crecent Belting & Packing Co., Trenton, N. J.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
Peerless Rubber Mfg. Co., New York.  
Voorhees Rubber Mfg. Co., Jersey City  
**Coin Mats.**  
Alden Rubber Co., Barborton, O.  
Combination Rubber & Belting Co.  
Goodyear Tire & Rubber Co., Akron, O.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
New York Belting & Packing Co., N. Y.  
**Cord (Pure Rubber).**  
Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.  
Crecent Belting & Packing Co., Trenton, N. J.  
Davol Rubber Co., Providence, R. I.  
Empire Rubber Mfg. Co., Trenton, N. J.  
Home Rubber Co., Trenton, N. J.  
Manhattan Rubber Mfg. Co., New York.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
New York Belting & Packing Co., N. Y.  
Peerless Rubber Mfg. Co., New York.

### MECHANICAL GOODS.

Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston-New York.  
Voorhees Rubber Mfg. Co., Jersey City  
**Deckle Straps.**  
Boston Belting Co., Boston.  
Combination Rubber & Belting Co.  
Liverpool Rubber Co., Liverpool, Eng.  
Mechanical Rubber Co., Chicago.  
New York Belting & Packing Co., N. Y.  
Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston-New York.  
**Door Springs.**  
Hodgman Rubber Co., New York.  
**Dredging Sleeves.**  
Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Combination Rubber & Belting Co.  
N. J. Car Spring & Rubber Co., Jersey City.  
Republic Rubber Co., Youngstown, O.  
**Fleshing Bands.**  
Combination Rubber & Belting Co.  
Republic Rubber Co., Youngstown, O.  
**Force Cups.**  
Hodgman Rubber Co., New York.  
"Forsyth" Combination Packing.  
Boston Belting Co., Boston-New York.  
**Fruit Jar Rings.**  
Alden Rubber Co., Barborton, O.  
Boston Woven Hose & Rubber Co.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.  
Crecent Belting & Packing Co., Trenton, N. J.  
Empire Rubber Mfg. Co., Trenton, N. J.  
Manhattan Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, Ohio.  
New York Belting & Packing Co., N. Y.  
Whitman & Barnes Mfg. Co., Akron, O.  
**Fuller Balls.**  
Combination Rubber & Belting Co.  
N. J. Car Spring & Rubber Co., Jersey City.



RUBBER BUYERS' DIRECTORY—CONTINUED.

MECHANICAL GOODS.

Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Whitman & Barnes Mfg. Co., Akron, O.

**Gas-Bags (Rubber).**  
 Cleveland Rubber Co., Cleveland, O.  
 Davol Rubber Co., Providence, R. I.  
 Liverpool Rubber Co., Liverpool, Eng.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.  
 Peerless Rubber Mfg. Co., New York.  
 Tyler Rubber Co., Andover, Mass.  
 Voorhees Rubber Mfg. Co., Jersey City.

**Grain Drill Tubes.**  
 Boston Belting Co., Boston-New York.  
 Republic Rubber Co., Youngstown, O.  
 Whitman & Barnes Mfg. Co., Akron, O.

**Hat Bags.**  
 Alden Rubber Co., Barberton, O.  
 Boston Belting Co., Boston.  
 Combination Rubber & Belting Co.  
 Home Rubber Co., Trenton, N. J.  
 Manhattan Rubber Mfg. Co., New York  
 Mechanical Rubber Co., Chicago.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.  
 New York Belting & Packing Co., N. Y.  
 New York Rubber Co., New York.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston.

**Horse Shoe Pads.**  
 Combination Rubber & Belting Co.  
 Crescent Belting & Packing Co., Trenton, N. J.  
 Peerless Rubber Mfg. Co., New York.  
 Pennsylvania Rubber Co., Erie, Pa.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Revere Rubber Co., Boston-New York.  
 Voorhees Rubber Mfg. Co., Jersey City.  
 Western Rubber Co., Goshen, Ind.  
 Whitman & Barnes Mfg. Co., Akron, O.

**Hose Armor.**  
 Crescent Belting & Packing Co., Trenton, N. J.  
 W. D. Allen Mfg. Co., Chicago.

**Hose—Armored.**  
 Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co.  
 Crescent Belting & Packing Co., Trenton, N. J.  
 N. J. Car Spring & Rubber Co., Jersey City.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.  
 Voorhees Rubber Mfg. Co., Jersey City.  
 Woven Steel Hose & Cable Co., Trenton, N. J.

**Hose Couplings.**  
 Boston Woven Hose & Rubber Co.

**Hose Linings.**  
 Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.  
 Combination Rubber & Belting Co.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.  
 Peerless Rubber Mfg. Co., New York.

**Hose Menders.**  
 Boston Woven Hose & Rubber Co.

**Hose—Protected.**  
 Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co.  
 Revere Rubber Co., Boston-New York.  
 Voorhees Rubber Mfg. Co., Jersey City.

**Hose—Rubber Lined.**  
 COTTON HOSE.  
 Combination Rubber & Belting Co.  
 Crescent Belting & Packing Co., Trenton, N. J.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 Gutta Percha and Rubber Mfg. Co. of Toronto.  
 Home Rubber Co., Trenton, N. J.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Voorhees Rubber Mfg. Co., Jersey City.

**COTTON HOSE AND LINEN HOSE.**  
 Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.  
 Cleveland Rubber Co., Cleveland, O.  
 Eureka Fire Hose Co., New York.  
 Gutta Percha & Rubber Mfg. Co., N. Y.  
 Manhattan Rubber Mfg. Co., New York.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.  
 New York Belting & Packing Co., N. Y.  
 Revere Rubber Co., Boston.  
 Jos. Stokes Rubber Co., Trenton, N. J.

**LINEN HOSE.**  
 Alden Rubber Co., Barberton, O.  
 Combination Rubber & Belting Co.  
 Voorhees Rubber Mfg. Co., Jersey City.  
 Whitman & Barnes Mfg. Co., Akron, O.

MECHANICAL GOODS.

**Hose Submarine.**  
 Boston Belting Co., Boston-New York.  
 Crescent Belting & Packing Co., Trenton, N. J.  
 Republic Rubber Co., Youngstown, O.  
 Boston Woven Hose & Rubber Co.

**Hose—Wire Wound.**  
 Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.  
 Combination Rubber & Belting Co.  
 Crescent Belting & Packing Co., Trenton, N. J.  
 N. J. Car Spring & Rubber Co., Jersey City.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston.

**Lawn Sprinklers.**  
 Boston Woven Hose & Rubber Co.

**Mallets (Rubber).**  
 Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co.  
 Peerless Rubber Mfg. Co., New York.  
 Revere Rubber Co., Boston-New York.

**Mould Work.**  
 [See Mechanical Rubber Goods.]  
 Chicago Fire & Rubber Co., Chicago.  
 Crescent Belting & Packing Co., Trenton, N. J.  
 Davidson Rubber Co., Boston.  
 Davol Rubber Co., Providence, R. I.  
 Faultless Rubber Co., Akron, O.  
 Hodgman Rubber Co., New York.  
 La Crosse (Wis.) Rubber Mills Co.  
 National India Rubber Co., Bristol, R. I.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Rubber Specialty Co., Akron, O.  
 Tyler Rubber Co., Andover, Mass.  
 Yatman Rubber Co., Harrison, N. J.

**"Nubian" Packing.**  
 Voorhees Rubber Mfg. Co., Jersey City.

**Oil Well Supplies.**  
 Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co.  
 Crescent Belting & Packing Co., Trenton, N. J.  
 Lake Shore Rubber Co., Erie, Pa.  
 N. J. Car Spring & Rubber Co., Jersey City.

**Paper Machine Rollers.**  
 Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.  
 Peerless Rubber Mfg. Co., New York.  
 Voorhees Rubber Mfg. Co., Jersey City.

**Plumbers' Supplies.**  
 Republic Rubber Co., Youngstown, O.  
 Western Rubber Co., Goshen, Ind.

**Pump Buckets.**  
 Combination Rubber & Belting Co.  
 Peerless Rubber Mfg. Co., New York.  
 Pennsylvania Rubber Co., Erie, Pa.  
 Republic Rubber Co., Youngstown, O.

**"Rainbow" Packing.**  
 Peerless Rubber Mfg. Co., New York.

**Reels—Hose.**  
 Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.

**Rings.**  
 Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co.  
 Peerless Rubber Mfg. Co., New York.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Republic Rubber Co., Youngstown, O.

**Rollers—Rubber Covered.**  
 Alden Rubber Co., Barberton, O.  
 Boston Belting Co., Boston.  
 Boston Woven Hose & Rubber Co.  
 Cleveland Rubber Co., Cleveland, O.  
 Combination Rubber & Belting Co.  
 Crescent Belting & Packing Co., Trenton, N. J.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 B. F. Goodrich Co., Akron, O.  
 Home Rubber Co., Trenton, N. J.  
 Manhattan Rubber Mfg. Co., New York.  
 Mechanical Rubber Co., Chicago.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.  
 New York Belting & Packing Co., N. Y.  
 Peerless Rubber Mfg. Co., New York.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.

MECHANICAL GOODS.

**Sewing Machine Rubbers.**  
 Combination Rubber & Belting Co.

**Springs—Rubber.**  
 Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.  
 Combination Rubber & Belting Co.  
 Crescent Belting & Packing Co., Trenton, N. J.  
 Liverpool Rubber Co., Liverpool, Eng.  
 N. J. Car Spring & Rubber Co., Jersey City.  
 Peerless Rubber Mfg. Co., New York.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Republic Rubber Co., Youngstown, Ohio.  
 Revere Rubber Co., Boston-New York.  
 Voorhees Rubber Mfg. Co., Jersey City.

**Stair Treads.**  
 Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.  
 Cleveland Rubber Co., Cleveland, O.  
 Combination Rubber & Belting Co.  
 Crescent Belting & Packing Co., Trenton, N. J.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 Home Rubber Co., Trenton, N. J.  
 Liverpool Rubber Co., Liverpool, Eng.  
 Manhattan Rubber Mfg. Co., New York.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.  
 New York Belting & Packing Co., N. Y.  
 New York Rubber Co., New York.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, Ohio.  
 Revere Rubber Co., Boston-New York.  
 Voorhees Rubber Mfg. Co., Jersey City.

**Tiling.**  
 Combination Rubber & Belting Co.  
 Gutta Percha & Rubber Mfg. Co., N. Y.  
 N. J. Car Spring & Rubber Co., Jersey City.  
 New York Belting & Packing Co., N. Y.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, Ohio.  
 Voorhees Rubber Mfg. Co., Jersey City.

**Tire Inner Tubes.**  
 Western Rubber Co., Goshen, Ind.

**Tires.**  
 BICYCLE AND CARRIAGE.  
 Alden Rubber Co., Barberton, O.  
 Boston Woven Hose & Rubber Co.  
 Continental Caoutchouc & Guttapercha Co., Hanover.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 B. F. Goodrich Co., Akron, O.  
 Gutta Percha & Rubber Mfg. Co., Toronto.  
 Kokomo Rubber Co., Kokomo, Ind.  
 Lake Shore Rubber Co., Erie, Pa.  
 Liverpool Rubber Co., Liverpool, Eng.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Republic Rubber Co., Youngstown, O.

**CARRIAGE.**  
 Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co.  
 N. J. Car Spring & Rubber Co., Jersey City.  
 New York Belting & Packing Co., N. Y.  
 Pennsylvania Rubber Co., Erie, Pa.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.  
 Western Rubber Co., Goshen, Ind.

MECHANICAL GOODS.

Combination Rubber & Belting Co.  
 Crescent Belting & Packing Co., Trenton, N. J.  
 Peerless Rubber Mfg. Co., New York.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Republic Rubber Co., Youngstown, O.  
 Voorhees Rubber Mfg. Co., Jersey City.

**"Usudurian" Packing.**  
 Revere Rubber Co., Boston-New York.

**Valve Balls.**  
 Boston Belting Co., Boston.  
 Cleveland Rubber Co., Cleveland, O.  
 Combination Rubber & Belting Co.  
 Manhattan Rubber Mfg. Co., New York.  
 Mechanical Rubber Co., Chicago.  
 New York Belting & Packing Co., N. Y.  
 New York Rubber Co., New York.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Whitman & Barnes Mfg. Co., Akron, O.

**Valve Discs.**  
 American Hard Rubber Co., New York.  
 Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.

**Valves.**  
 [See Mechanical Rubber Goods.]  
 Jenkins Bros., New York-Chicago.  
 Plymouth Rubber Co., Stoughton, Mass.

**Wringer Rolls.**  
 Cleveland Rubber Co., Cleveland, O.  
 Combination Rubber & Belting Co.  
 Republic Rubber Co., Youngstown, O.

DRUGGISTS' AND STATIONERS' SUNDRIES

**Atomizers.**  
**Bandages.**  
**Bulbs.**  
**Water Bottles.**

**Druggists' Sundries—General.**  
 American Hard Rubber Co., New York.  
 C. J. Bailey & Co., Boston.  
 Canadian Rubber Co. of Montreal.  
 Cleveland Rubber Co., Cleveland, O.  
 Davidson Rubber Co., Boston.  
 Davol Rubber Co., Providence, R. I.  
 Faultless Rubber Co., Akron, O.  
 B. F. Goodrich Co., Akron, O.  
 Hodgman Rubber Co., New York.  
 Rubber Specialty Co., Akron, O.  
 Tyler Rubber Co., Andover, Mass.

**Balls, Dolls and Toys.**  
 Continental Caoutchouc & Guttapercha Co.  
 New York Rubber Co., New York.  
 Russian-American India Rubber Co.  
 Whitman & Barnes Mfg. Co., Akron, O.

**Combs.**  
 American Hard Rubber Co., New York.  
 Harburg Rubber Comb Co., Harburg, Germany.  
 Schrader & Ehlers, New York.

**Elastic Bands.**  
 Davidson Rubber Co., Boston.  
 Davol Rubber Co., Providence, R. I.  
 B. F. Goodrich Co., Akron, O.  
 Hodgman Rubber Co., New York-Boston.  
 Pennsylvania Rubber Co., Erie, Pa.  
 Tyler Rubber Co., Andover, Mass.  
 Whitman & Barnes Mfg. Co., Akron, O.

**Erasive Rubbers.**  
 Davidson Rubber Co., Boston.  
 B. F. Goodrich Co., Akron, O.  
 Yatman Rubber Co., Harrison, N. J.

**Finger Cots.**  
 Combination Rubber & Belting Co.  
 Faultless Rubber Mfg. Co., Akron, O.  
 India Rubber Co., Akron, O.  
 Lyon Rubber Co., Akron, O.  
 Pure Gum Specialty Co., Barberton, O.

**Gloves.**  
 Combination Rubber & Belting Co.  
 Davol Rubber Co., Providence, R. I.  
 Faultless Rubber Co., Akron, O.  
 India Rubber Co., Akron, O.  
 Lyon Rubber Co., Akron, O.  
 Pure Gum Specialty Co., Barberton, O.

**Hard Rubber Goods.**  
 American Hard Rubber Co., New York.  
 Combination Rubber & Belting Co.  
 Davol Rubber Co., Providence, R. I.  
 Harburg Rubber Comb Co., Harburg, Germany.



## RUBBER BUYERS' DIRECTORY—CONTINUED.

## DRUGGISTS' SUNDRIES

Schrader & Ehlers, New York.  
Stokes Rubber Co., Joseph, Trenton, N. J.  
Tyer Rubber Co., Andover, Mass.

## Hospital Sheetings.

Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.  
Conant Rubber Co., Boston.  
Davidson Rubber Co., Boston.  
Davol Rubber Co., Providence, R. I.  
Hodgman Rubber Co., New York.  
Plymouth Rubber Co., Stoughton, Mass.  
Tyer Rubber Co., Andover, Mass.

## Hot Water Bottles.

American Hard Rubber Co., New York.  
Cleveland Rubber Co., Cleveland, O.  
Davidson Rubber Co., Boston.  
Davol Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York-Boston.  
Tyer Rubber Co., Andover, Mass.

## Ice Bags.

Hodgman Rubber Co., New York.  
Lyon Rubber Co., Akron, O.  
Pure Gum Specialty Co., Barberton, O.

## Ice Caps.

Pure Gum Specialty Co., Barberton, O.  
Tyer Rubber Co., Andover, Mass.

## Life Preservers.

Hodgman Rubber Co., New York.

## Mittens.

Davol Rubber Co., Providence, R. I.  
Faultless Rubber Co., Akron, O.

## Nipple Caps.

Peerless Rubber Mfg. Co., New York.

## Nipples.

Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.  
Davidson Rubber Co., Boston.  
Davol Rubber Co., Providence, R. I.  
Faultless Rubber Co., Akron, O.  
Lyon Rubber Co., Akron, O.  
Pure Gum Specialty Co., Barberton, O.  
Tyer Rubber Co., Andover, Mass.

## Notions.

American Hard Rubber Co., New York.  
Davidson Rubber Co., Boston.  
Tyer Rubber Co., Andover, Mass.

## Rulers.

American Hard Rubber Co., New York.

## Sponges (Rubber).

Chicago Tire & Rubber Co., Chicago.  
Russian-American India Rubber Co., St. Petersburg.

## Stationers' Sundries.

American Hard Rubber Co., New York.  
Cleveland Rubber Co., Cleveland, O.  
Davidson Rubber Co., Boston.  
Davol Rubber Co., Providence, R. I.  
Goodyear Tire & Rubber Co., Akron, O.  
Hodgman Rubber Co., New York-Boston.  
Rubber Specialty Co., Akron, O.  
Tyer Rubber Co., Andover, Mass.

## Stopples (Rubber).

Alden Rubber Co., Barberton, O.  
H. O. Canfield, Bridgeport, Ct.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.  
Davol Rubber Co., Providence, R. I.  
Hodgman Rubber Co., New York.  
Manhattan Rubber Mfg. Co., New York.  
New York Belting & Packing Co., N. Y.  
Tyer Rubber Co., Andover, Mass.  
Whitman & Barnes Mfg. Co., Akron, O.

## Surgical Appliances.

Faultless Rubber Co., Akron, O.

## Syringes.

American Hard Rubber Co., New York.  
Cleveland Rubber Co., Cleveland, O.  
Davol Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York.  
Tyer Rubber Co., Andover, Mass.

## Throat Bags.

Cleveland Rubber Co., Cleveland, O.  
Davol Rubber Co., Providence, R. I.  
Tyer Rubber Co., Andover, Mass.

## DRUGGISTS' SUNDRIES

## Tobacco Pouches.

Pure Gum Specialty Co., Barberton, O.  
Tyer Rubber Co., Andover, Mass.

## RUBBER FOOTWEAR

## Boots and Shoes.

American Rubber Co., Boston.  
Joseph Banigan Rubber Co., Providence, R. I.  
Boston Rubber Shoe Co., Boston.  
L. Candee & Co., New Haven, Ct.  
Granby Rubber Co., Granby, Quebec.  
Gutta Percha & Rubber Mfg. Co. of Toronto.  
Hood Rubber Co., Boston.  
Jersey Rubber Shoe Co., New York.  
Liverpool Rubber Co., Liverpool, Eng.  
Lycoming Rubber Co., Williamsport, Pa.  
Meyer Rubber Co., New York.  
National India Rubber Co., Boston-Providence.  
Russian-American India Rubber Co., St. Petersburg.  
United States Rubber Co., New York.  
Wales-Goodyear Rubber Co., Boston.  
Woonsocket Rubber Co., Providence.

## Heels and Soles.

Boston Woven Hose & Rubber Co., Chicago.  
Chicago Tire & Rubber Co., Chicago.  
Combination Rubber & Belting Co.  
Continental Caoutchouc & Gutta-percha Co., Hanover.  
Elastic Tip Co., Boston, Mass.  
Pirelli & Co., Milan, Italy.  
Plymouth Rubber Co., Stoughton, Mass.  
Western Rubber Co., Goshen, Ind.

## Tennis Shoes.

American Rubber Co., Boston.  
Joseph Banigan Rubber Co., Providence, R. I.  
Boston Rubber Shoe Co., Boston.  
Granby Rubber Co., Granby, Quebec.  
Liverpool Rubber Co., Liverpool, Eng.  
National India Rubber Co., Providence.

## Tennis Soles.

Combination Rubber & Belting Co.  
Jos. Stokes Rubber Co., Trenton, N. J.  
Hodgman Rubber Co., New York.

## Wading Pants.

Hodgman Rubber Co., New York.

## MACKINTOSHED AND SURFACE GOODS

## Air Goods (Rubber).

Cleveland Rubber Co., Cleveland, O.  
Davol Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York.  
New York Rubber Co., New York.  
National India Rubber Co., Providence.  
Tyer Rubber Co., Andover, Mass.

## Aprons.

Hodgman Rubber Co., New York.

## Barbers' Bibs.

Davol Rubber Co., Providence, R. I.  
Tyer Rubber Co., Andover, Mass.

## Bathing Caps.

Conant Rubber Co., Boston.  
Davol Rubber Co., Providence, R. I.  
D. C. Hall & Co., New York.

## Bellows Cloths.

Boston Rubber Co., Boston.  
Cable Rubber Co., Boston.  
Cleveland Rubber Co., Cleveland, O.  
Hodgman Rubber Co., New York.  
La Crosse (Wis.) Rubber Mills Co.

## Calendering.

La Crosse (Wis.) Rubber Mills Co.  
Milford Rubber Co., Boston.  
Plymouth Rubber Co., Stoughton, Mass.

## Canoe Beds.

Hodgman Rubber Co., New York.

## MACKINTOSHED GOODS.

## Carriage Ducks and Drills.

Cable Rubber Co., Boston.  
Cleveland Rubber Co., Cleveland, O.  
Empire Rubber Mfg. Co., Trenton, N. J.  
Gutta Percha & Rubber Mfg. Co., Toronto.

## Clothing.

Cable Rubber Co., Boston.  
Cleveland Rubber Co., Cleveland, O.  
Conant Rubber Co., Boston.  
Granby Rubber Co., Granby, Quebec.  
Gutta Percha & Rubber Mfg. Co. of Toronto.  
Hodgman Rubber Co., New York.  
Holden, Leonard & Co., Boston.  
La Crosse (Wis.) Rubber Mills Co.  
Pirelli & Co., Milan, Italy.  
Russian-American India Rubber Co.

## Cravenette.

Cravenette Co., Ltd.

## Diving Dresses.

Hodgman Rubber Co., New York.

## Dress Shields.

Conant Rubber Co., Boston.  
D. C. Hall & Co., New York.  
Hodgman Rubber Co., New York.

## Horse Covers.

Hodgman Rubber Co., New York.

## Leggings.

Cleveland Rubber Co., Cleveland, O.  
Hodgman Rubber Co., New York.

## Mackintoshes.

[See Clothing.]  
La Crosse (Wis.) Rubber Mills Co.  
Milford Rubber Co., Boston.  
Plymouth Rubber Co., Stoughton, Mass.

## Rain Coats.

Cravenette Co., Ltd.  
Sheets and Sheeting.  
D. C. Hall & Co., New York.

## DENTAL AND STAMP RUBBER

## Dental Gum.

American Hard Rubber Co., New York.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.  
Tyer Rubber Co., Andover, Mass.

## Rubber Dam.

Cleveland Rubber Co., Cleveland, O.  
Davol Rubber Co., Providence, R. I.  
Hodgman Rubber Co., New York.  
Seamless Rubber Co., New Haven, Ct.  
Tyer Rubber Co., Andover, Mass.

## Stamp Gum.

Alden Rubber Co., Barberton, Ohio.  
Combination Rubber & Belting Co.  
Mechanical Rubber Co., Chicago, Ill.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
New York Belting & Packing Co., N. Y.  
Seamless Rubber Co., New Haven, Ct.  
Western Rubber Co., Goshen, Ind.

## SPORTING GOODS

## Foot Balls.

Cleveland Rubber Co., Cleveland, O.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York.

## Golf Balls.

Boston Belting Co., Boston.  
Davidson Rubber Co., Boston.  
B. F. Goodrich Co., Akron, O.  
Whitman & Barnes Mfg. Co., Akron, O.

## Submarine Outfits.

Hodgman Rubber Co., New York.

## Sporting Goods.

Combination Rubber & Belting Co.  
Hodgman Rubber Co., New York.  
Seamless Rubber Co., New Haven, Ct.

## SPORTING GOODS.

Tyer Rubber Co., Andover, Mass.

## Striking Bags.

Pure Gum Specialty Co., Barberton, O.

## ELECTRICAL

## Electrical Supplies.

American Hard Rubber Co., New York.  
Combination Rubber & Belting Co.  
Lake Shore Rubber Co., Erie, Pa.  
Joseph Stokes Rubber Co., Trenton, N. J.  
Massachusetts Chemical Co., Boston.  
Tyer Rubber Co., Andover, Mass.  
Western Rubber Co., Goshen, Ind.

## Friction Tape.

Boston Belting Co., Boston.  
Boston Woven Hose & Rubber Co.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.  
B. F. Goodrich Rubber Co., Akron, O.  
Massachusetts Chemical Co., Boston.  
Mechanical Rubber Co., Chicago.  
Home Rubber Co., Trenton, N. J.  
Revere Rubber Co., Boston-New York.  
Whitman & Barnes Mfg. Co., Akron, O.

## Hard Rubber Goods.

American Hard Rubber Co., New York.  
Combination Rubber & Belting Co.  
Joseph Stokes Rubber Co., Trenton, N. J.

## Insulating Compounds.

Combination Rubber & Belting Co.  
Gutta-Percha & Rubber Mfg. Co., Toronto.

Massachusetts Chemical Co., Boston.

## Insulated Wire and Cables.

National India Rubber Co., Providence.

## Splicing Compound.

Home Rubber Co., Trenton, N. J.  
Western Rubber Co., Goshen, Ind.

## MISCELLANEOUS

## Architect.

Herbert S. Kimball, Boston.

## Belting—Leather.

Graton & Knight Mfg. Co., Boston.

## Books for Rubber Men.

India Rubber Publishing Co., N. Y.

## Cement (Rubber).

Boston Belting Co., Boston.  
Combination Rubber & Belting Co.  
Manhattan Rubber Mfg. Co., New York.  
Monarch Rubber Co., Campello, Mass.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
New York Belting & Packing Co., N. Y.

## Chemical Analyses.

Durand Woodman, Ph. D., New York.  
H. L. Terry, Manchester, England.

## Chemist.

Peter T. Austen, New York.

## Investments.

Consolidated Rubber Plantations Co. of Uvero, Boston.  
La Zacaupa Rubber Plantation Co., San Francisco.  
Mutual Rubber Production Co., No. 1, Boston.

## Rubber Code.

International Cable Directory Co., N. Y.

## Rubber Lands For Sale.

Ashmore Russel, London, England.  
J. J. Fitzerrell, Mexico.  
O. H. Harrison, San Francisco.

## Rubber Planting.

Consolidated Rubber Plantations Co. of Uvero, Boston.  
La Zacaupa Rubber Plantation Co., San Francisco.  
Mutual Rubber Production Co., No. 1, Boston.

## Thermometers.

Hohmann & Maurer Mfg. Co., Rochester, N. Y.  
Helios-Upton Co., Peabody, Mass.

## MACHINERY AND SUPPLIES FOR RUBBER MILLS.

## RUBBER MACHINERY

## Acid Tanks.

Birmingham Iron Foundry, Derby, Ct.

## Band Cutting Machine.

A. Adamson, Akron, O.  
Birmingham Iron Foundry, Derby, Ct.

## RUBBER MACHINERY.

## Belt Folding Machines.

Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.

## Belt Slitters.

Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.

## RUBBER MACHINERY

## Belt Stretchers.

Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
Hogson & Pettis Mfg. Co., New Haven, Ct.

## Blowers.

B. F. Sturtevant Co., Boston.

## RUBBER MACHINERY.

## Boilers.

William R. Thropp, Trenton, N. J.

## Boot Trees.

Metal Last & Tree Co., Boston.

## Buckles.

The Weld Mfg. Co., Boston.



## MACHINERY AND SUPPLIES FOR RUBBER MILLS—CONTINUED.

## RUBBER MACHINERY.

## Calenders.

Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
Textile Finishing Machinery Co., Providence, R. I.  
Thos. F. Stevenson, New York.

## Castings.

A. Adamson, Akron, O.  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.

## Chucks (Lathe).

Hoggson & Pettis Mfg. Co., New Haven, Ct.

## Churns.

American Tool & Machine Co., Boston.

## Cloth Dryers.

Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.

## Clutches.

Farrel Foundry & Mach. Co., Ansonia, Ct.

## Crackers.

Birmingham Iron Foundry, Derby, Ct.

## Devulcanizers.

Birmingham Iron Foundry, Derby, Ct.  
Edred W. Clark, Hartford, Ct.  
Excelsior Machine Wks., Akron, O.  
William R. Thropp, Trenton, N. J.

## Dies.

Excelsior Machine Wks., Akron, Ohio.  
Hoggson & Pettis Mfg. Co., New Haven, Ct.

## Doubling Machines.

American Tool & Machine Co., Boston.

## Drying Apparatus.

B. F. Sturtevant Co., Boston.

## Drying Machines.

Birmingham Iron Foundry, Derby, Ct.  
Textile Finishing Machinery Co., Providence, R. I.  
American Vacuum Drying Machine Co., New York.

## Dynamoes.

B. F. Sturtevant & Co., Boston.

## Embossing Calenders.

Textile Finishing Machinery Co., Providence, R. I.

## Electric Power Transmission.

W. B. Smith Whaley & Co., Boston, Mass.—Columbia, S. C.

## Engines.

B. F. Sturtevant & Co., Boston.  
William R. Thropp, Trenton, N. J.

## Engraving (Roll).

Hoggson & Pettis Mfg. Co., New Haven, Ct.

## Exhaust Fans and Heads.

B. F. Sturtevant Co., Boston.

## Factory Construction.

Herbert S. Kimball, Boston.

## Fans (Electric).

B. F. Sturtevant & Co., Boston.

## Fans (Exhaust and Ventilating).

B. F. Sturtevant & Co., Boston.

## Forges.

B. F. Sturtevant & Co., Boston.

## Gas Exhausters.

B. F. Sturtevant & Co., Boston.

## Gearing.

Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.

## Generating Sets.

B. F. Sturtevant Co., Boston.

## Grinders.

Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
Thos. F. Stevenson, New York.  
William R. Thropp, Trenton, N. J.

## Hangers.

Farrel Foundry & Mach. Co., Ansonia, Ct.

## Hard Rubber Lathes.

A. Adamson, Akron, Ohio.

## Heating Apparatus.

B. F. Sturtevant Co., Boston.

## Hose Making Machines.

Birmingham Iron Foundry, Derby, Ct.

## RUBBER MACHINERY.

## Hose Wrapping Machines.

A. Adamson, Akron, Ohio.  
Birmingham Iron Foundry, Derby, Ct.

## Hydraulic Accumulators.

Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.

## Jar Ring Lathes.

A. Adamson, Akron, Ohio.  
Birmingham Iron Foundry, Derby, Ct.  
Excelsior Machine Wks., Akron, Ohio.  
William R. Thropp, Trenton, N. J.

## Machinists' Tools.

Hoggson & Pettis Mfg. Co., New Haven, Ct.

## Mechanical Draft.

B. F. Sturtevant Co., Boston.

## Mixers.

Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
Thos. F. Stevenson, New York.  
William R. Thropp, Trenton, N. J.

## Motors (Electric).

B. F. Sturtevant Co., Boston.

## Moulds.

A. Adamson, Akron, Ohio.  
Birmingham Iron Foundry, Derby, Ct.  
Excelsior Machine Wks., Akron, Ohio.  
Hoggson & Pettis Mfg. Co., New Haven, Ct.  
Williams Foundry & Machine Co., Akron, O.

## Pillow Blocks.

Farrel Foundry & Mach. Co., Ansonia, Ct.

## Post Hangers.

Farrel Foundry & Mach. Co., Ansonia, Ct.

## Power Transmission.

W. B. Smith Whaley & Co., Boston.

## Presses (for Rubber Work.)

A. Adamson, Akron, O.  
Birmingham Iron Foundry, Derby, Ct.  
Boomer & Boschert Press Co., Syracuse, N. Y.  
Edred W. Clark, Hartford, Ct.  
Excelsior Machine Wks., Akron, Ohio.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
Thos. F. Stevenson, New York.  
William R. Thropp, Trenton, N. J.  
Williams Foundry & Machine Co., Akron, O.

## Pumps.

Birmingham Iron Foundry, Derby, Ct.  
Boomer & Boschert Press Co., Syracuse, N. Y.

Farrel Foundry & Mach. Co., Ansonia, Ct.  
Thos. F. Stevenson, New York.

## Racks for Boot and Shoe Cars.

Hoggson & Pettis Mfg. Co., New Haven, Ct.

## Reducing Valves.

Mason Regulator Co., Boston.

## Rollers.

Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.

## Rollers (Hand).

Hoggson & Pettis Mfg. Co., New Haven, Ct.

## Second-Hand Machinery.

Philip McGrory, Trenton, N. J.  
Thos. F. Stevenson, New York.

## Shafting.

Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.

Wellman Sole Cutting Machine Co., Medford, Mass.

## Spreaders.

American Tool & Machine Co., Boston.  
Birmingham Iron Foundry, Derby, Ct.

## Steam Traps and Specialties.

Jenkins Bros., New York.  
Mason Regulator Co., Boston.  
B. F. Sturtevant Co., Boston.

## Steel Stamps.

Hoggson & Pettis Mfg. Co., New Haven, Ct.

## Stitchers (Hand).

Hoggson & Pettis Mfg. Co., New Haven, Ct.

## RUBBER MACHINERY.

## Thermometers.

Hohmann & Maurer Mfg. Co., Rochester, N. Y.

Helios Upton Co., Peabody, Mass.

## Tubing Machines.

A. Adamson, Akron, O.  
Edred W. Clark, Hartford, Ct.  
John Royle & Sons, Paterson, N. J.  
Williams Foundry & Machine Co., Akron, O.

## Vacuum Drying Chambers.

American Vacuum Drying Machine Co., New York.

## Varnishing Machines.

Birmingham Iron Foundry, Derby, Ct.

## Ventilating Fans.

B. F. Sturtevant Co., Boston.

## Vulcanizers.

Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
Thos. F. Stevenson, New York.  
William R. Thropp, Trenton, N. J.

## Washers.

Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
Thos. F. Stevenson, New York.  
William R. Thropp, Trenton, N. J.

## Wrapping Machines.

A. Adamson, Akron, O.  
Birmingham Iron Foundry, Derby, Ct.  
Excelsior Machine Wks., Akron, Ohio.

## FACTORY SUPPLIES

## Acid (Carbolic).

Barrett Mfg. Co., Philadelphia.

## Antimony, Sulphurets of.

GOLDEN.

Aetien-Ges. Georg Egestorff's Salzwerke, Linden, Germany.  
Atlas Chemical Co., Newtonville, Mass.

GOLDEN AND CRIMSON.

Joseph Cantor, New York.  
Stamford (Conn.) Rubber Supply Co.  
Typke & King, London, England.

## Balata.

George A. Alden & Co., Boston.

## Baskets (Carrying).

Morris & Co., Yardville, N. J.

## Benzol.

Barrett Mfg. Co., Philadelphia.  
Samuel Cabot, Boston.

## Black Hypo.

Joseph Cantor, New York.  
Typke & King, London, England.

## Boxes (Wood).

Henry H. Sheip & Co., Philadelphia.

## Carbon Bisulphide.

George W. Speaight, New York.

## Chemicals.

Toch Bros., New York.

## Colors.

Joseph Cantor, New York.  
Toch Bros., New York.  
Typke & King, London, England.

## Crude Rubber.

George A. Alden & Co., Boston.  
Otto Meyer, Boston.  
Rubber Trading Co., New York-Boston.

## Drills.

J. H. Lane & Co., New York.

## Duck (Cotton).

J. H. Lane & Co., New York.  
Morris & Co., Yardville, N. J.

## Fabrics.

Holden, Leonard & Co., Boston.

## Fossil Flour.

Fossil Flour Co., New York.

## Gutta-Percha.

George A. Alden & Co., Boston.  
Rubber Trading Co., New York-Boston.

Hose Bands, Straps, and Menders.  
Boston Woven Hose & Rubber Co.  
William Yerdon, Fort Plain, N. Y.

## FACTORY SUPPLIES.

## Hose Brands.

Boston Woven Hose & Rubber Co.  
H. B. Sherman Mfg. Co., Battle Creek, Mich.

## Hose Pipes, Nozzles, and Couplings.

Boston Woven Hose & Rubber Co.  
Eureka Fire Hose Co., New York.  
Revere Rubber Co., Boston.

## Infusorial Earth.

Stamford (Conn.) Rubber Supply Co.

## Lampblack.

Samuel Cabot, Boston.

## Lasts (Aluminum).

Metal Last & Free Co., Boston.

## Lawn-Hose Supporters.

C. J. Bailey & Co., Boston.

## Lead—Blue.

Picher Lead Co., Chicago, Ill.

## Lead—Sublimed White.

Picher Lead Co., Chicago, Ill.

## Manufacturers' Supplies.

Rubber Trading Co., New York-Boston.  
Stamford (Conn.) Rubber Supply Co.

## Naphtha.

Barrett Mfg. Co., Philadelphia.

## Oils.

Akron Commercial Co., Akron, O.

## Paris White and Whiting.

H. F. Taintor Mfg. Co., New York.

## Pitch.

E. B. Weed & Co., Fayetteville, N. C.

## Reclaimed Rubber.

Bloomington (N. J.) Soft Rubber Co.  
Manufactured Rubber Co., Philadelphia.  
New Century Rubber Co., Philadelphia.  
New Jersey Rubber Co., Lambertville, N. J.

Pequanoc Rubber Co., Butler, N. J.  
Philadelphia Rubber Wks., Philadelphia.  
Raymond Rubber Co., Titusville, N. J.  
Jos. Stokes Rubber Co., Trenton, N. J.  
U. S. Rubber Reclaiming Wks., N. Y.

## AGENTS AND DEALERS.

G. Brice, Paris, France.  
W. C. Coleman, Boston, Mass.  
Philip McGrory, Trenton, N. J.  
H. P. Moorhouse, Paris, France.  
Rubber Trading Co., New York-Boston.  
Wm. Somerville's Sons, Liverpool, Eng.

## Rubber Waste

Wm. H. Cummings & Sons, New York.  
W. C. Coleman, Boston, Mass.  
J. H. Stedman & Co., Inc., Boston.  
United States Waste Rubber Co., Brockton, Mass.

## Scrap Rubber.

Bers & Co., Philadelphia.  
W. C. Coleman, Boston, Mass.  
Wm. H. Cummings & Sons, New York.  
Theodore Hofelier & Co., Buffalo, N. Y.  
Philip McGrory, Trenton, N. J.  
Wm. Somerville's Sons, New York.  
J. H. Stedman & Co., Inc., Boston.  
Feist Strauss, Frankfurt a/M., Germany.

## Substitute.

Bonner Mfg. Co., Boston, Mass.  
Joseph Cantor, New York.  
Massachusetts Chemical Co., Boston.  
Typke & King, London, England.  
Stamford (Conn.) Rubber Supply Co.

## Sulphur.

Battelle & Renwick, New York.  
T. & S. C. White Co., New York.

## Sulphur Chloride.

George W. Speaight, New York.  
Stamford (Conn.) Rubber Supply Co.

## Tire Fabrics.

J. H. Lane & Co., New York.  
Morris & Co., Yardville, N. J.

## Waterproofing Fabrics.

Holden, Leonard & Co., Boston.

## Whiting.

H. F. Taintor Mfg. Co., New York.

## Zinc Sulphide.

Joseph Cantor, New York.  
Typke & King, London, England.

## Zinc White.

New Jersey Zinc Co., New York.  
Stamford (Conn.) Rubber Supply Co.



# THE REPUBLIC RUBBER CO.

MAIN OFFICE AND FACTORY  
YOUNGSTOWN, OHIO

AGENCY  
JOHNSTON, MOREHOUSE & DICKEY  
PITTSBURGH

BRANCH STORE  
47 WARREN STREET  
NEW YORK

AGENCY  
H. CHANNON COMPANY  
CHICAGO

We are offering some  
exceptional values in  
**GARDEN HOSE**  
for 1903



It will be to your interest  
to get our  
**SAMPLES and PRICES**  
before ordering elsewhere

## Belting, Hose, Packing, Matting and Molded Goods

We guarantee our TONKA RED SHEET PACKING to be unsurpassed

*Link (Black Sheet) Packing, Spiral Red Core, Rubber Backed,  
Square Duck and Hydraulic Packings*

Illustrated 120 Page Catalogue sent free upon request

*Mention the India Rubber World when you write.*

## Invest in Shares of La Zacualpa Rubber Plantation.



OUR TWELVE YEAR OLD TREES PRODUCING RUBBER.

Interest payable January and July from the actual production and sale of rubber from cultivated trees.

This PLANTATION is acknowledged to be the one company that has done something and actually solved the problem of rubber cultivation.

It is highly endorsed from every source and its shares afford an investment not to be overlooked.

### LA ZACUALPA RUBBER PLANTATION,

No. 713 MARKET STREET,

SAN FRANCISCO, CALIFORNIA.

EASTERN REPRESENTATIVES:

**BROOKS BROTHERS & COMPANY,**

No. 35 WALL STREET,

NEW YORK.

*Mention the India Rubber World when you write.*



# REVERE RUBBER COMPANY.

Manufacturers of a  
HIGH CLASS of

## MECHANICAL RUBBER GOODS.

### HOME OFFICE:

77 Bedford and 73 Kingston Streets,  
BOSTON, MASSACHUSETTS.

### BRANCHES:

NEW YORK, N. Y., 59 Reade Street.  
PITTSBURG, PA., 2-8 Wood Street  
CHICAGO, ILL., 168 Lake Street.  
MINNEAPOLIS, MINN., 210 Nicollet Avenue.  
NEW ORLEANS, LA., 410 Carondelet Street.  
SAN FRANCISCO, CAL., 527 Market Street.

### FACTORIES:

CHELSEA, MASSACHUSETTS.

*Mention the India Rubber World when you write.*

# HIGH GRADE RUBBER GOODS

(MADE IN CANADA)

**BELTING  
PACKINGS  
VALVES  
VALVE SHEET  
TUBING  
and  
GASKETS**

**RUBBER HOSE**

—FOR—

**WATER  
SUCTION  
STEAM  
AIR  
Fire Protection  
ACIDS  
BREWERS  
Pneumatic Tools**

SUPERIOR  
.. IN ..  
QUALITY

SATISFACTORY  
.. IN ..  
SERVICE



Sole Manufacturers of the celebrated "MALTESE CROSS" and "LION" Brands Rubbers.  
The best fitting, best wearing and most stylish rubber footwear on the market.

SPECIAL ATTENTION GIVEN TO EXPORT ORDERS



## The Gutta Percha & Rubber Mfg. Co. of Toronto Ltd.

*Mention The India Rubber World when you write.*

Head Office Warehouses—45-49 Front St., W., TORONTO, CANADA.

= = THE = =

# GRANBY RUBBER CO.

HIGHEST GRADE

## RUBBER BOOTS, SHOES, AND CLOTHING.

**Factories: GRANBY, QUEBEC.**

S. H. C. MINER, President,  
J. H. McKECHNIE, Gen'l Mgr.

*Mention The India Rubber World when you write.*

**BOUND VOLUMES**

- - OF - -

### THE INDIA RUBBER WORLD

Make a desirable addition to the office equipment or the private library of any man who is interested in any branch of the rubber business.

The twelve monthly numbers from October, 1901, to September, 1902, inclusive, have been bound in half Morocco, forming a handsome and durable volume.

**Price, \$5.00, Prepaid.**

Back volumes at the same price.

**THE INDIA RUBBER PUBLISHING CO.,**

No. 150 Nassau Street, New York.

# GORHAM RUBBER COMPANY,

Manufacturers and Distributors for the Pacific Coast and the Orient

OF RUBBER GOODS OF EVERY DESCRIPTION.

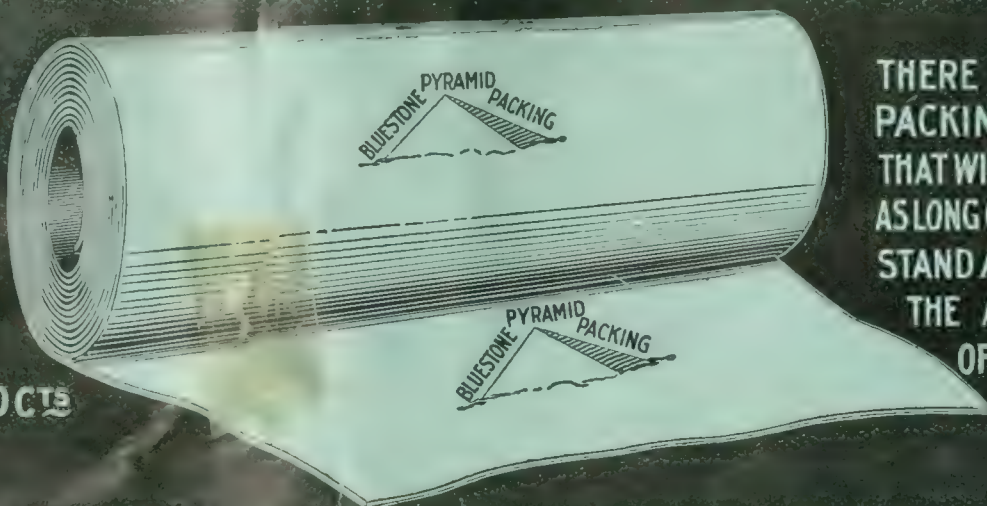
MAIN OFFICE: **SAN FRANCISCO, CALIF.** BRANCH: **SEATTLE, WASHINGTON.**

*Mention The India Rubber World when you write.*



# PYRAMID BRAND BLUESTONE HIGH PRESSURE PACKING

FOR STEAM &  
HOT OR COLD  
WATER &  
AND AIR &&  
PACKS EQUALLY  
WELL FOR ALL  
PRICE PER LB. 80 CTS



THERE IS NO  
PACKING MADE  
THAT WILL LAST  
AS LONG OR WITH-  
STAND AS WELL  
THE ACTION  
OF STEAM  
HEAT

## THE GUTTA PERCHA AND RUBBER MANUFACTURING CO.

NEW YORK  
126-128 DUANE ST.

CHICAGO  
96-98 LAKE ST.

SAN FRANCISCO  
30-32 FREMONT ST.

BOSTON  
71 PEARL ST.

PHILADELPHIA, PA.  
221 CHESTNUT ST.

**SIX YEARS YOUNG  
AND STILL GROWING**

Growing in Quality  
of Product

Growing in Sales  
Growing in Popularity  
Not made by a TRUST

**HOOD RUBBER COMPANY  
BOSTON**

*Mention The India Rubber World when you write.*

1856 — FORTY-SEVEN YEARS — 1903

EXPERIENCE

**TYRIAN  
DRUGGISTS'  
RUBBER GOODS**  
OF ALL DESCRIPTIONS.

RUBBER MOULD WORK A SPECIALTY.

**TYER RUBBER COMPANY,  
Andover, Mass.**

*Mention The India Rubber World when you write.*



The BEST BUCKLES for ARCTICS  
ARE MADE BY  
THE WELD MFG. CO.,  
41 Lincoln Street, - - Boston.

"Cravenette"  
RAIN COATS

Must have this Circular  
Trade Mark stamped in  
inside of coat.....



# INDIA RUBBER WORLD

CAOUTCHOUC

HEVEA BRASILIENSIS

DICHOPSIS GUTTA

GUTTA-PERCHA

Edited by HENRY C. PEARSON—Offices, No. 150 Nassau Street, NEW YORK.

Vol. XXVIII. No. 2.

MAY 1, 1903.

35 Cents a Copy.  
\$3.00 Per Year.

## THE ALDEN RUBBER CO., BARBERTON RUBBER WORKS, MANUFACTURERS OF RUBBER GOODS.

The  
MASTER KEY  
Rubber Tiling.

Noiseless,  
Non Conducting.  
Non Slipping.

The ideal floor for  
Offices, Banks, Vesti-  
bules, Elevators and  
especially for places  
where electrical cur-  
rents abound.

Beautiful Color Effects.  
Designs Furnished.



THIS TRADE MARK GUARANTEES FULL VALUE.

AKRON, OHIO and BARBERTON, OHIO, U.S.A.  
Akron Office, Arcade Block—Main Office and Works at Barberton

LONG DISTANCE TEL., AKRON EXCHANGE NO. 999.  
CABLE ADDRESS "ARCO AKRON."

BICYCLE,  
AUTOMOBILE  
AND  
VEHICLE  
TIRES,  
HOSE,  
PACKING,  
VALVES.  
MOLDED  
GOODS,  
FRUIT JAR  
RINGS.  
WHITE  
TUBING.

Mention the India Rubber World when you write

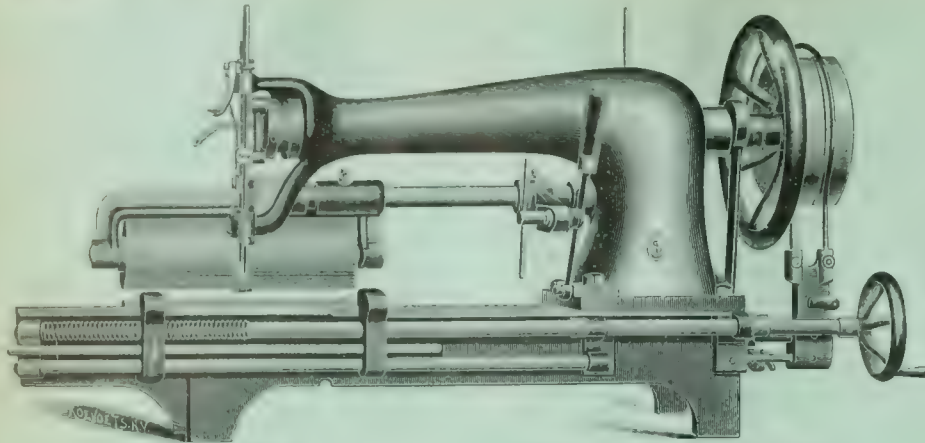
**LAMPBLACKS especially for RUBBER MANUFACTURE.**  
SAMUEL CABOT, BOSTON, MASS

BOUGHT AND SOLD.  
620 ATLANTIC AVE., - - BOSTON, MASS.

C  
H  
L  
O  
R  
I  
D  
E  
O  
F  
S  
U  
L  
P  
H  
U  
R  
A  
N  
D  
B  
I  
S  
U  
L  
P  
H  
O  
R  
I  
C  
A  
C  
A  
R  
B  
O  
N  
G  
E  
O.  
S  
P  
E  
C  
I  
A  
L  
I  
Q  
U  
A  
L  
I  
T  
Y  
106 F  
St. N



**T**HREE powerful and efficient machines are especially designed for the strong stitching, in long lengths, of several plies of rubber, canvas or leather, and are extensively employed for the manufacture of BELTING used for power transmission; they can be used for sewing any kind of fabric, capable of needle-puncture, up to three-quarters of an inch in thickness.



SINGER MACHINE No. 5-3 - - - OPERATED BY MECHANICAL POWER.

slide on a round rod, the other is operated by means of a screw, as illustrated above. The Shuttle is of the oscillating-cylinder type provided with very large bobbin, having great capacity for coarse thread.

Four varieties are made for making two parallel rows of stitching at once; each carries two needles in one needle bar and is provided with two shuttles. These machines are shown in practical operation at—

NEW YORK, BROADWAY & PRINCE ST.  
BOSTON, 128-132 ESSEX ST.

PHILADELPHIA, 1210 CHESTNUT ST.  
BALTIMORE, 11 NO. CHARLES ST.  
INDIANAPOLIS, IND., 126 WEST WASHINGTON ST.

CHICAGO, 260-262 FIFTH AVE.  
CINCINNATI, 115 WEST THIRD ST.  
ST. PAUL, MINN., 402 JACKSON ST.

ST. LOUIS, 1124 OLIVE ST.  
TROY, N. Y., 251 RIVER ST.

THE SINGER MANUFACTURING CO.  
SALESROOMS IN EVERY CITY.

*Mention The India Rubber World when you write.*

**BEST IN THE MARKET**

# Cable's Carriage Cloth

*New Factory Buildings.*

*New Machinery.*

*Prompt Shipments.*

*Samples Freely Furnished.*

## CABLE RUBBER COMPANY,

Factory and Office: JAMAICA PLAIN, MASS.

*Mention The India Rubber World when you write.*



### For General Compounding

"M.R." makes a perfect union with rubber. Prevents blistering, and the harsher action of free Sulphur. Absolutely acid proof. Has been used regularly by Rubber Manufacturers for the past three years.

GEO. A. ALDEN & CO., Boston, Mass.

# Forsyth Combination Metal Insertion Packing



Patented April 11, 1899.

will satisfactorily withstand the heat of high pressure steam. It is a high grade rubber packing with one or more plies of pliable sheet metal insertion. A successful packing that satisfies where other packings fail.

## CAUTION.

As the exclusive manufacturers of sheet metal insertion rubber packing, under a patent issued April 11, 1899, to James Bennett Forsyth, we caution all parties against making, selling or using any rubber packing with sheet metal insertion that in any way infringes said patent.

**Our line of Packings for all purposes is most complete.** We solicit your inquiries...

**BELTING,  
HOSE of all kinds.  
GASKETS, VALVES,  
DECKLE STRAPS.**



The Trade Mark of Excellence.

**RUBBER COVERED  
ROLLERS.  
MATS, MATTING, TUBING,  
Etc.**

# BOSTON BELTING CO.

JAMES BENNETT FORSYTH, Genl. Mgr.

**Original Manufacturers of VULCANIZED RUBBER GOODS.**

Boston,	New York,	Buffalo,	Chicago,	St. Louis,	Milwaukee,	St. Paul,	Seattle,
Philadelphia,	Baltimore,	Atlanta,	Mobile,	New Orleans,	Memphis,	Cincinnati,	
Pittsburgh,	Detroit,	Cleveland,	Indianapolis,	Kansas City,	San Francisco,	Portland.	

*Mention The India Rubber World when you write.*





GOLD MEDAL AWARDED  
at  
PAN-AMERICAN EXPOSITION,  
1901.

## EUREKA FIRE HOSE CO.,

13 BARCLAY ST., NEW YORK.

MANUFACTURERS OF THE CELEBRATED BRANDS

“RED CROSS” (One Ply) “PARAGON” (Two Ply) “EUREKA” (Three Ply)

“U. S.” Brand Rubber Lined Cotton Fire Hose

Adopted as the Standard Factory Fire Hose by the Associated Factory Mutual Fire Insurance Companies, for Factory and Mill Fire Protection.

COTTON and LINEN HOSE of all grades, both plain and rubber-lined. All sizes.

These Goods are especially adapted for use in Woollen, Cotton, Silk, Print, Knit Goods and Carpet Mills, Dyeing and Bleaching establishments, Pulp and Paper Mills, Breweries and Distilleries, Sugar Refineries, Ice and Refrigerating Machinery, Chemical Works, Tanneries, etc. *Samples and full information given on application.*

## COTTON HOSE,

We Spin, Weave, and Line Our Own Goods.

## GARDEN HOSE,

New Lines—New Methods.

## BELTING and PACKING.

Empire Rubber Mfg. Co.,

NEW YORK.

CHICAGO.

BOSTON.

ST. LOUIS, MO.

Factories: TRENTON, N. J.

*Mention the India Rubber World when you write.*

For HIGH GRADE  
Pneumatic Bicycle Tires  
and Solid Carriage Tires

Write to

KOKOMO RUBBER CO.

KOKOMO, INDIANA.

*Mention The India Rubber World when you write.*

Lake Shore Rubber Co.

Manufacture Mechanical Rubber Goods,

HOSE, BELTING, PACKING, VALVES,  
GASKETS, ELECTRICAL TAPE, OIL  
WELL SUPPLIES, Etc.

WRITE FOR PRICES AND SAMPLES.

Office and Works, ERIE, PA.

*Mention The India Rubber World when you write.*



Send for Samples and Prices

# FRUIT JAR RINGS



Our rings in bulk are not shipped loosely in barrels but in *one pound cylindrical boxes* for which we make no extra charge.



## Boston Woven Hose & Rubber Co.

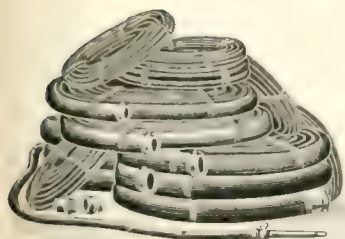
CAMBRIDGE, MASS.

Branches: Boston, New York, Philadelphia, Buffalo, Pittsburg, Chicago, St. Louis, San Francisco, Cleveland,

*Mention The India Rubber World when you write.*

"ALL GOODS BEARING OUR BRAND ARE FULLY GUARANTEED."

## HIGH CLASS RUBBER GOODS.



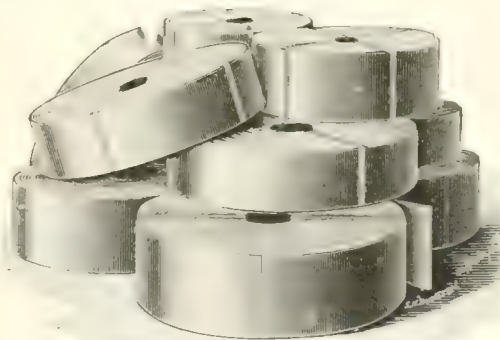
### NEW PLANT

The most improved machinery, Up-to-date methods coupled with experienced workmen and capable supervision enable us to meet any competitor and give us an advantage over many.

### We Make

Hose, Belting, Packing, Valves, Gaskets, Mats, Matting, Linen and Cotton Hose,

and many specialties as well as they can be made when the ability to turn out first grade goods is united with the willingness to do so.



Our "Nubian" Packing is adapted for high or low pressure. It is guaranteed to stand higher temperature than any other packing, and will retain its strength and pliability under conditions that destroy other packings. Flat and Tubular Gaskets made from "Nubian" Stock.

## Voorhees Rubber Manufacturing Co.

BRANCH STORE:

175-177 Lake St., Chicago.

*Mention The India Rubber World when you write.*

18-40 BOSTWICK AVENUE,  
JERSEY CITY, NEW JERSEY.



# HODGMAN'S

## Alexombric Rain Coats.



Unequalled for fit, finish and style.

Up-to-date in every way.

**HODGMAN RUBBER COMPANY,**

806-808 BROADWAY—Opposite Eleventh Street,  
NEW YORK.

*Mention The India Rubber World when you write.*

**BEFORE YOU PLACE YOUR CONTRACT**

**....FOR....**

**G A R D E N   H O S E**

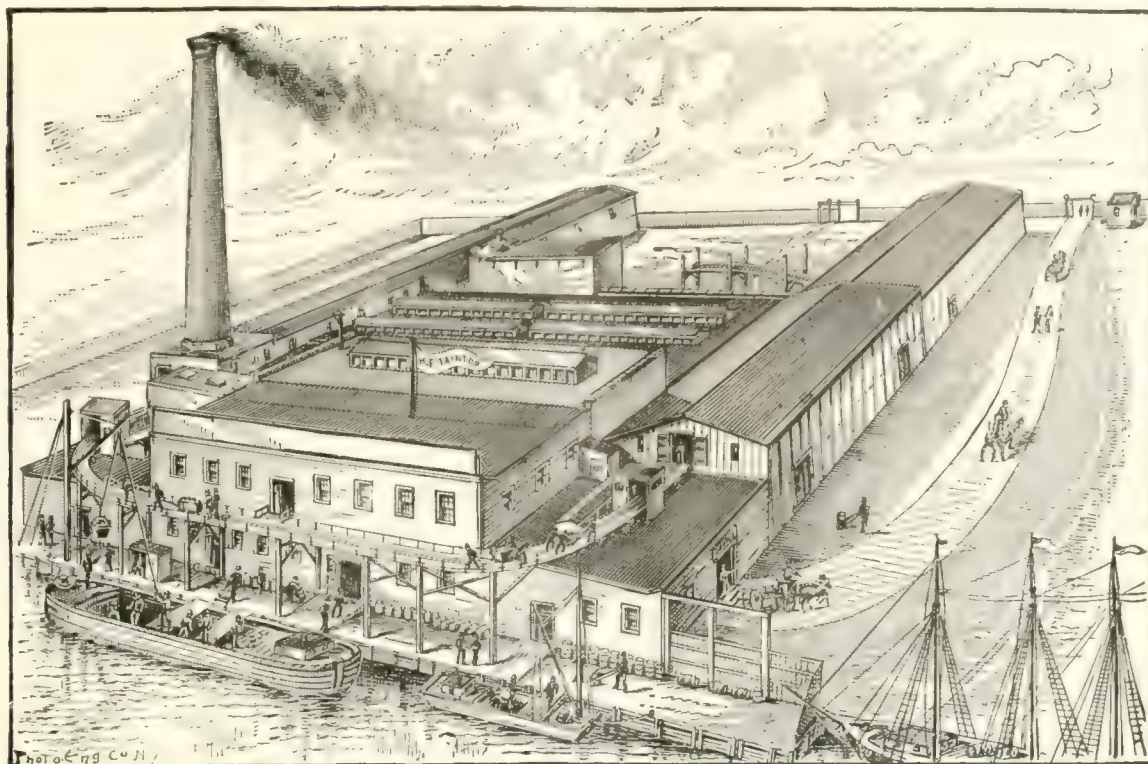
**WRITE US FOR SAMPLES AND PRICES.**

**TEN DISTINCT GRADES, EVERY ONE A WINNER.**

**CRESCENT BELTING & PACKING Co.**

**TRENTON, N. J.**

*Mention The India Rubber World when you write.*



## The H. F. Taintor Mfg. Co.

are the largest manufacturers of Whiting and English Cliffstone Paris White in this country.

All grades of Whiting prepared especially for use of Rubber Manufacturers, finely ground and bolted and *very* dry.

The "Westminster" brand of English Cliffstone Paris White is the finest made in the world, and is particularly suited to manufacturers of fine Rubber goods and specialties.

Samples can be had by mail.

Address

***No. 101 Beekman St.,  
New York City.***

*Mention The India Rubber World when you write.*



FACTORIES AT MATTEAWAN, DUTCHESS CO., N. Y.

# NEW YORK RUBBER COMPANY.

INCORPORATED 1851.

Manufacturers of

**BELTING,  
HOSE,  
PACKING,  
ETC.**

**OF SUPERIOR QUALITIES.**

**HIGH GRADE  
Lawn and Garden Hose  
A SPECIALTY.**

**HIGH GRADE  
Lawn and Garden Hose  
A SPECIALTY.**

WAREHOUSE AND OFFICE:

**84 AND 86 READE, COR. OF CHURCH STREET, NEW YORK.**

Address P. O. Box 1160.

*Mention The India Rubber World when you write.*

## BELTING



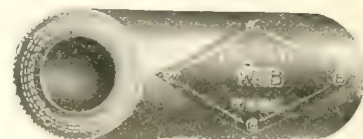
FOR  
**Transmitting  
Elevating  
Conveying**

## JAR RINGS WASHERS BANDS PACKING



FOR  
**Steam  
Water  
Oil  
Acids  
Air, Etc.**

## GRAIN DRILL TUBES MOLDED WORK CUSHION TIRES BABY CAB TIRES VALVES



## HOSE

FOR  
**Steam  
Water  
Oil  
Acids  
Suction  
Air, Etc.**

**THE WHITMAN & BARNES MFG. CO.**

Kansas City  
New York  
Chicago

RUBBER WORKS,

AKRON, OHIO

London

St. Catharines  
Cincinnati  
Syracuse

*Mention The India Rubber World when you write.*

It is Oil Proof,  
It is Acid Proof.



*It is perfection for a Steam Joint.*

*Try It.*

*You will have the proof.*



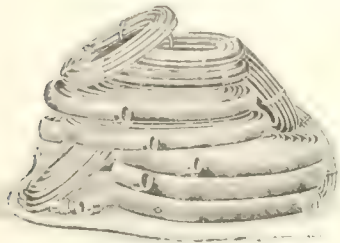
# NEW JERSEY CAR SPRING & RUBBER CO.

General Offices and Works,      Jersey City, N. J.  
 New York,      -      -      -      -      -      10 Barclay St.  
 Chicago,      -      -      -      -      -      16 North Canal St.  
 Cleveland,      -      -      -      -      -      190 Seneca St.  
 Philadelphia,      -      -      -      -      -      722 Arch St.

MANUFACTURERS OF

## High Grade Rubber Goods

"Our name and brand a guarantee of quality."



Air Brake Hose      Rubber Belting  
 Steam Hose      Steam Packing  
 Fire Hose      Mats and Matting  
 Water Hose      Valves, etc.



"Antimony" Red Sheet Packing  
 "Hemisphere" Rubber Matting  
 Rubber Lined Cotton Fire Hose  
 Mechanical Rubber Goods for all purposes.

J. J. FIELDS, President.  
 J. J. FIELDS, Vice-Pres't.

GEO. B. DICKERSON, Sec'y.  
 TOWNSEND COCKS, Treasurer.

*Mention The India Rubber World when you write.*

ESTABLISHED 1859.

## THE LIVERPOOL RUBBER COMPANY, Ltd. LIVERPOOL, ENGLAND.



*The highest grade of Rubber Boots and Shoes, "Liver" and "Ideal" Canvas Shoes, etc., etc.*

*High grade Mechanical, Engineering and Mill Work, Railway Springs, Valves, Buffers, Sheets, Insertion, Rings, Bladders, Deckles, Printers' Blankets, Hose, Belting, Mats, Packing, etc., etc.*

*Cycle and Carriage Tires, "Lockfast" pneumatic, single tube, cushion and solid.*

*India Rubber Thread.*

CHIEF OFFICE: 292 VAUXHALL RD., LIVERPOOL,  
 and at 34 Aldermanbury, London, E. C.,  
 20 Rue des Marais, Paris,  
 333 Kent St., Sydney, New South Wales.

Factories: Vauxhall Road, and Walton, Liverpool.

*Mention the India Rubber World when you write.*

# THE EUREKA RUBBER MFG. CO., TRENTON, NEW JERSEY.



Manufacturers of

**Rubber Carriage Drill and Duck, Cotton Rubber Lined Hose, and Mechanical Rubber Goods of Every Description.**

Factory strictly modern in design, with machinery of the latest and most approved description throughout, using only first class raw material, and producing nothing but reliable grades.

We solicit inquiries from the trade direct, or through Branch Stores or Salesmen. We promise prompt attention to same.

FACTORY - - - TRENTON, N. J.  
On the main line Pennsylvania R. R.

Branch Stores: CHICAGO:  
248 Randolph Street.

NEW YORK:  
55 Warren Street.

BOSTON:  
276 Devonshire Street.

*Mention The India Rubber World when you write.*

## THE COMBINATION RUBBER and BELTING Co.,

Main Office and Works: Bloomfield, Essex County, New Jersey, U. S. A.

Salesroom:

157 CEDAR STREET,  
New York City, N. Y.



Salesroom:

198 RANDOLPH STREET,  
Chicago, Ill.



**Mechanical Rubber Goods.**

# BELTING, HOSE, Etc.

SEND FOR CATALOGUE, PRICES AND SAMPLES.

TRIAL ORDERS SOLICITED.

*Mention the India Rubber World when you write.*



# THE MANHATTAN RUBBER MFG. CO.

CABLE ADDRESS  
MIALOGIA.

18 VESEY STREET, NEW YORK.

7260 CORTLANDT  
TELEPHONES: 7261 CORTLANDT  
7262 CORTLANDT

BELTING  
HOSE  
PACKING  
TUBING  
MATTING  
ROLLS



GASKETS  
TILING  
MOULDED  
GOODS  
IN EVERY  
VARIETY

MAKERS OF—

## Mechanical Rubber Goods.

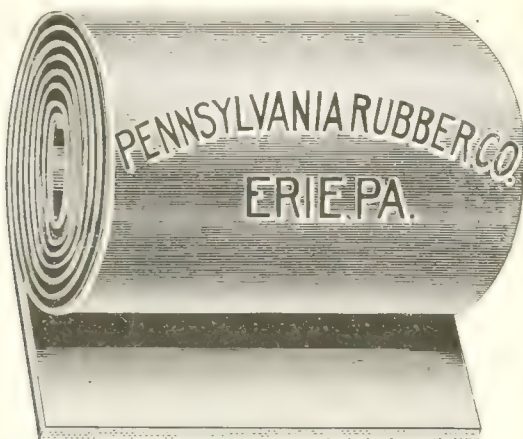
Factories: PASSAIC, N. J., on D. L. & W. R. R.

*Mention The India Rubber World when you write.*

FACTORIES: JEANNETTE, PENNSYLVANIA.

### PENNSYLVANIA RUBBER CO.

Branches: NEW YORK, (127 Duane St.)  
CHICAGO. PITTSBURGH. BOSTON.



### MECHANICAL RUBBER GOODS

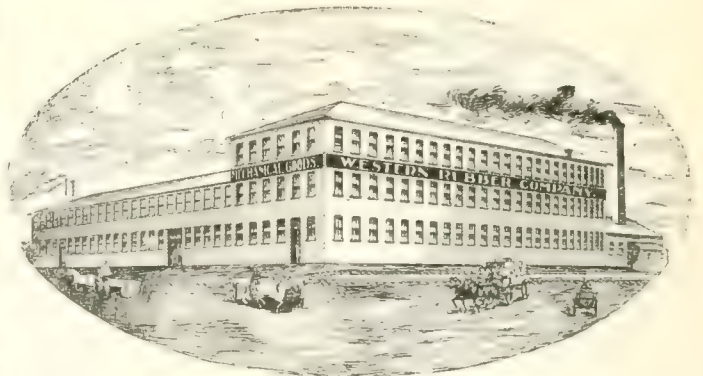
FOR { MINES, MANUFACTORIES,  
POWER PLANTS,  
RAILROADS, STEAMSHIPS, ETC.

### Bicycle, Carriage AND Automobile TIRES

*Mention The India Rubber World when you write.*

### Western Rubber Company,

GOSHEN, - - - INDIANA.



...Manufacturers of...

### Tires, Inner Tubes, Splicing Compound, Packing,

Rubber Horse Shoe Pads,  
Rubber Heels,  
Matting, Mats,  
Patented Specialties,  
Mould Work,

Plumbers' Supplies,  
Stamp Makers' Supplies  
Electrical Supplies,  
Sundries, Etc.

*Mention the India Rubber World when you write.*

New York Philadelphia Trenton, N. J. Chicago St. Louis Pittsburgh

35 WARREN ST.

208 N. 4th ST.

MAIN OFFICE

\* 21 So. CANAL ST. WAINRIGHT BLDG.

326 4th AVE.

F O R

# GARDEN HOSE

For the Season of 1903

—ADDRESS—

TRENTON RUBBER MFG. CO.

Trenton, N. J.

*We would be glad to send Samples and Quote.*

*Mention The India Rubber World when you write.*



ESTABLISHED 1874.

## DAVOL RUBBER COMPANY

MANUFACTURERS OF  
FINE RUBBER GOODS  
IN SOFT AND HARD RUBBER

PROVIDENCE, RHODE ISLAND, U.S.A.

*Mention The India Rubber World when you write.*

## THE FAULTLESS RUBBER CO.

AKRON, OHIO, U. S. A.

MANUFACTURERS OF

**High Grade Seamless and  
Seamed Rubber Goods  
and Specialties.**

CORRESPONDENCE SOLICITED.

*Mention The India Rubber World when you write.*

We are the Sole Mfrs. of  
The Lyon Pat. Grain Glove and  
they are better than they look.

**The Lyon Rubber Co.**  
AKRON, OHIO.

Mfg. Rubber Specialties of all kinds.

*Mention The India Rubber World when you write.***THE PURE GUM SPECIALTY CO.,**  
BARBERTON, OHIO.

MANUFACTURERS OF

TUBING (All kinds), PURE GUM GLOVES (Any weight),  
STEAM CURED GLOVES, HOUSEHOLD GLOVES  
(Any color), FINGER COTS (All kinds),  
FACE MASKS, ICE BAGS, ICE  
CAPS, SLEEVES, NIPPLES,  
BEAUTY BRUSHES.

**Moulded Goods A Specialty.**

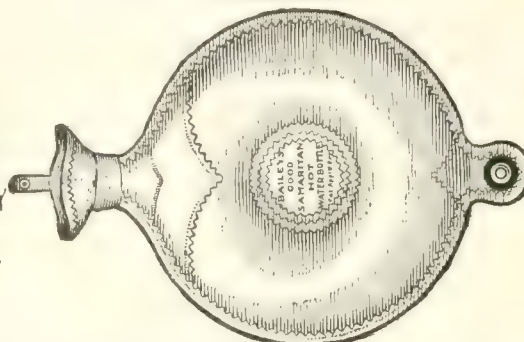
RUBBER SPECIALTIES OF ALL KINDS

ALL GOODS GUARANTEED.

*Mention The India Rubber World when you write.*

## Bailey's "GOOD SAMARITAN" Hot Water Bottle.

(TRADE MARK)

IT  
FITS  
EVERY  
SPOT.SOFT  
AS A  
PIL-  
LOW.

MADE hollow disk in shape it adjusts itself to all parts of the body, and lays on it without holding or strapping. Being only about half the thickness of the ordinary water bottle, when filled, it is easy to place under the patient and comfortable to lie on.



For pain in the ear, teeth or face, the hollow disk gives to the affected parts hot air or steaming by placing in it a sponge wet with spirits or water.



Buttong the two ends of the bottle together makes a perfect heater for the feet or to stand next to the body.

Only the best of material and workmanship are used in its construction, and every bottle is guaranteed.

5 inch diameter.....	Face Size, \$ 7 50 Doz.
8 inch diameter.....	10.00 "
10 inch diameter.....	12.00 "
11 inch diameter.....	15.00 "

MANUFACTURED BY

DAVOL RUBBER CO., Providence, R. I. TYER RUBBER CO., Andover, Mass.  
THE B. F. GOODRICH CO., Akron, O. THE SEAMLESS RUBBER CO., New Haven.  
HODGMAN RUBBER CO., New York. HARDMAN RUBBER CO., Belleville, N. J.  
IDEAL RUBBER CO., Brooklyn, N. Y. MECHANICAL RUBBER CO., Cleveland.  
C. J. BAILEY & CO., Patentees, No. 22 Boylston Street, Boston.

**The Rubber Specialty Co.,**

AKRON, OHIO,

MANUFACTURERS OF

**Druggists' and Stationer's****.. Sundries. ..**

Specialties in Moulded Work, etc. Expert Work in  
developing inventions a specialty. . . . .

M. J. GILBO,  
Pres't and Treas.JOHN FRANK,  
Secretary.*Mention the India Rubber World when you write.*

# AMERICAN HARD RUBBER CO.,

THE INDIA RUBBER COMB CO.  
THE BUTLER HARD RUBBER CO.  
THE GOODRICH HARD RUBBER CO.

9-13 MERCER STREET, NEW YORK, U.S.A.

MANUFACTURERS OF

## COMBS, SYRINGES, CROWN WATER BOTTLES, DRUGGISTS' & STATIONERS' SUNDRIES.

EVERY DESCRIPTION OF HARD RUBBER GOODS.

*Mention The India Rubber World when you write.*

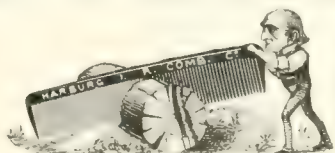
DR. H. TRAUN & SONS, Formerly

### Harburg Rubber Comb Co.

HARBURG AND HAMBURG, (GERMANY).

Manufacturers of  
all kinds of

**HARD  
RUBBER  
GOODS.**



SOLE MAKERS OF THE CELEBRATED

SPECIALTY:

**HARD  
RUBBER  
COMBS.**

Olive Doré, Helios, Reform and Sawing Man

BRANDS OF COMBS.

HEADQUARTERS FOR THE UNITED STATES:

**SCHRADER & EHLERS,**  
335 BROADWAY, NEW YORK

*Mention the India Rubber World when you write.*

## YATMAN RUBBER CO.,

### MOULDED SPECIALTIES

### IN SOFT RUBBER.

### ERASIVE RUBBER.

OFFICE AND FACTORY:

No. 608 Passaic Avenue,  
HARRISON, N. J.

TELEPHONE:  
523 HARRISON.

**WRITE FOR ESTIMATES.**

*Mention The India Rubber World when you write.*

MOLD WORK A SPECIALTY.



## SPONGES

We are the first in  
the United States to  
make Rubber  
Sponges. Call for  
samples and prices.

### CHICAGO TIRE & RUBBER CO.

329-331 West Kinzie Street, - - CHICAGO, ILL.

*Mention The India Rubber World when you write.*

## The Akron Commercial Co.,

Animal, Vegetable and Fish Oils,  
Chemicals and Supplies for - - -

### POTTERIES, PLATERS AND RUBBER MANUFACTURERS.

WAREHOUSE AND TRANSFER,

MANUFACTURERS' AGENTS, Etc.

**AKRON, OHIO.**

Office: 366 SOUTH MAIN STREET. Telephone, 894.  
Warehouse: WEST CENTER STREET. " 422.

*Mention the India Rubber World when you write.*

# CONTINENTAL TYRES, CONTINENTAL MECHANICAL RUBBER GOODS.

## CONTINENTAL CAOUTCHOUC & GUTTAPERCHA CO.,

### Hanover, Germany.

*Mention The India Rubber World when you write.*



In Every  
Essential  
Requirement

BANIGAN  
RUBBERS

Are Unexcelled



SEND YOUR ORDERS TO —

Edward R. Rice, Buffalo.

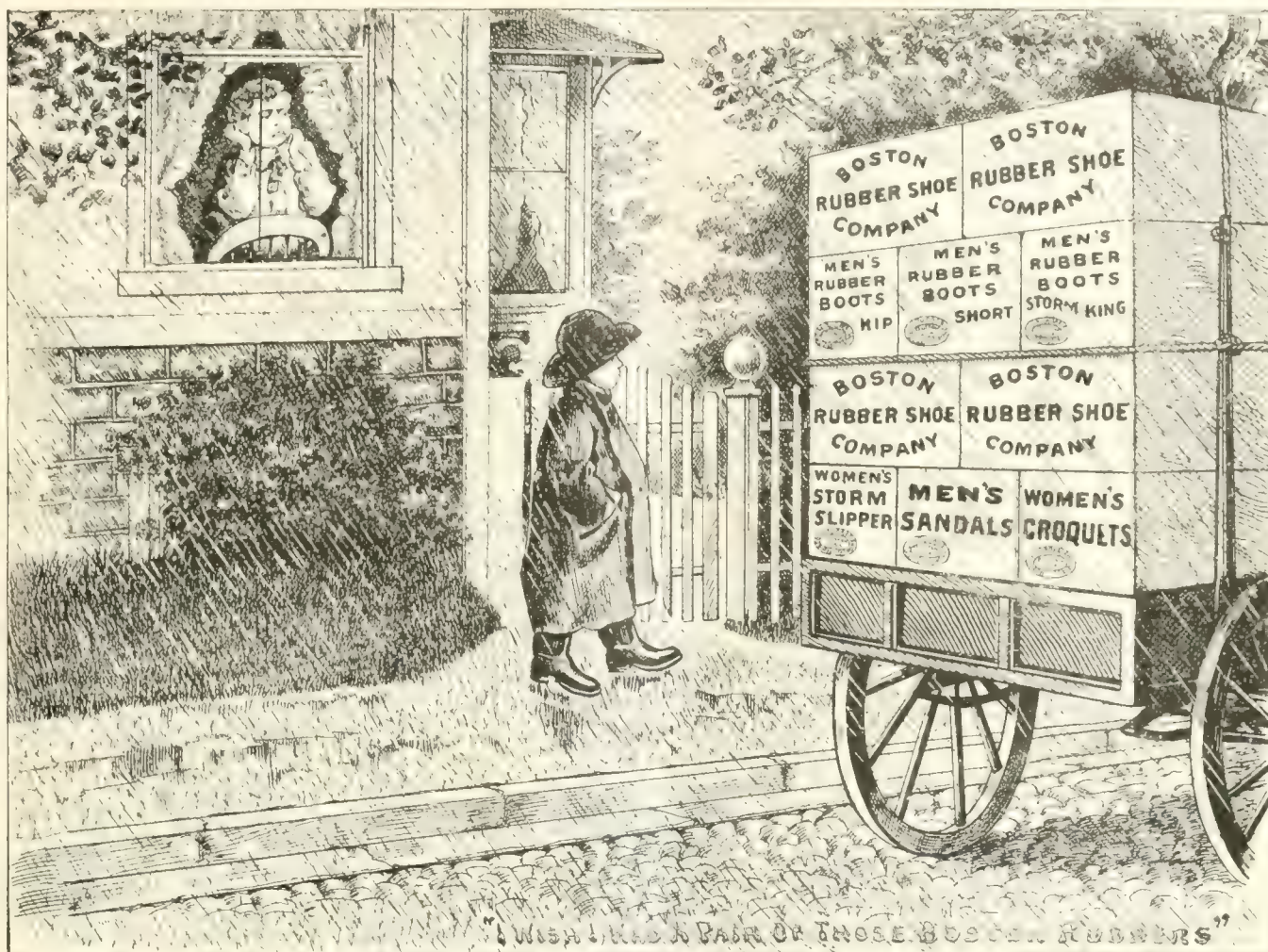
C. L. Weaver & Co., Boston.

Edward R. Rice, Chicago.

American Hand Sewed Co., Omaha.

Linthicum Rubber Co., Baltimore.


*Mention The India Rubber World when you write.*



## There are 15,000,000 people just like that boy

The boy at the window is noticeably sad. It is raining and he is housed; for he has no rubbers. And he wants, with a deep and yearning want, some of those "BOSTON" rubbers.

There are 15,000,000 other people just like this boy. They want "BOSTON" rubbers. We know this, because for several years past we have been making 15,000,000 pairs of boots and shoes a year, and somebody has wanted every pair of them.

Are you getting some of the trade of these 15,000,000 people? You can easily enough, if you have the rubbers they want—the rubbers that bear this guarantee of quality, 



TRADE MARK.

*Mention The India Rubber World when you write.*

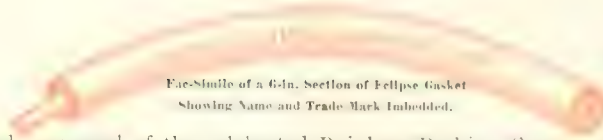


# The Eclipse Sectional Rainbow Gasket

$\frac{3}{8}$  in. }  
 $\frac{1}{2}$  in. } For Hand Holes.  
 $\frac{5}{8}$  in. }



$\frac{3}{4}$  in. }  
 $\frac{7}{8}$  in. } For Extra Large Joints.  
 1 in. }



Face-Profile of a 6-In. Section of Eclipse Gasket  
Showing Name and Trade Mark Imbedded.

The Eclipse Gasket is red in color, and composed of the celebrated Rainbow Packing Compound. It will not harden under any degree of heat, or blow out under the highest pressure, and can be taken out and repeatedly replaced. Joints can be made in from three to five minutes.

## The Peerless Spiral Piston and Valve Rod Packing.

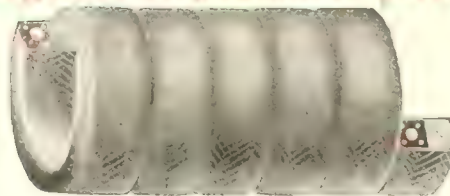
++++++  
 It will hold 400 pounds of  
 steam.  
 Once Tried Always Used.



++++++  
 Will run twelve months in  
 high speed engines.

## Success Semi-Metallic, Diagonal Expansion Spiral Packing, Rainbow Core.

For Steam,  
 Low or High Pressure.



For Hot or Cold Water  
 and Ammonia Machines.

Patented October 31, 1899.

## HOSE, BELTING, PACKING, VALVES and RUBBER TILING.

Largest manufacturers in the world of fine mechanical Rubber Goods.  
 Send for Catalogue.

MANUFACTURED PATENTED AND COPYRIGHTED EXCLUSIVELY BY

## The Peerless Rubber Manufacturing Co.

16 WARREN STREET, NEW YORK.

16-24 Woodward Ave., Detroit, Mich.    200-210 S. Water St., Chicago, Ill.    17-23 Beale St., and 18-24 Main St., San Francisco, Cal.  
 Corner Common and Tchoupitoulas Sts., New Orleans, La.    634 Smithfield St., Pittsburgh, Pa.  
 1231-1233 Union Ave., Kansas City, Mo.    38 South Meridian St., Indianapolis, Ind.

Mention The India Rubber World when you write.



Published on the 1st of each Month by

## THE INDIA RUBBER PUBLISHING CO.

No. 150 NASSAU ST., NEW YORK.

HENRY C. PEARSON,  
EDITOR.HAWTHORNE HILL,  
ASSOCIATE.

Vol. 28.

MAY 1, 1903.

No. 2.

**SUBSCRIPTIONS:** \$3.00 per year, \$1.75 for six months, postpaid, for the United States and Canada. Foreign countries, same price. Special Rates for Clubs of five, ten or more subscribers.

**ADVERTISING:** Rates will be made known on application.

**REMITTANCES:** Should always be made by bank draft, Post Office Orders or Express Money orders on New York, payable to THE INDIA RUBBER PUBLISHING COMPANY. Remittances for foreign subscriptions should be sent by International Post order, payable as above.

**DISCONTINUANCES:** Yearly orders for subscriptions and advertising are regarded as permanent, and after the first twelve months they will be discontinued only at the request of the subscriber or advertiser. Bills are rendered promptly at the beginning of each period, and thereby our patrons have due notice of continuance.

COPYRIGHT, 1902, BY

THE INDIA RUBBER PUBLISHING CO.

Entered at New York Post Office as mail matter of the second-class.

## TABLE OF CONTENTS.

Editorial:	PAGE.
Criminal Compounding.....	25
A Crying Evil and a Few Long Felt Wants.....	251
Butter and Rubber—A Suggestion.....	252
The Stock Exchange and Business.....	25
Minor Editorial.....	25
Rubber Planting Enterprises.....	254
Rubber Planting on the Isthmus of Tehuantepec—I. [The Editor from New York to the Mexican Border, Alkah Plains, Native Food Opas, Arrival at Mexico City, A Journey South of the Capital Adventures a Aholal, On Horseback over Forest Trails, The Demarest, Newmark, and "La Ventura" Estates.] [With Ten Illustrations and a Map.]	255
The India-Rubber Trade in Great Britain.....	260
[Free Litigation—A Question of Poetry, The Notes, Standard Paris Notes from Italy.]	
Gathering Rubber Underground.....	261
[With two Illustrations of Little Known African Rubber Plants]	
Rubber Goods Manufacturing Co.....	262
[Fourth Annual Report—Balance Sheet, Annual Election]	
New Trade Publications.....	264
Automatic Measuring of Rubber Coated Fabrics.....	265
[With Seven Illustrations.]	
How Rubber Comes from the Congo [Illustrated].....	267
Literature of India Rubber.....	268
Recent Rubber Patents [American, British and German].....	269
The Doughty Shoe Machine.....	271
[With Two Illustrations.]	
The Obituary Record.....	273
[With Portraits of Charles A. Hart and John M. Sturley]	
Rubber Interests in Europe.....	275
India-Rubber Goods in Commerce.....	276
The Rubber Trade in Akron.....	277
[Our Correspondent]	
Miscellaneous:	
Laying the Pacific Rubber Cable.....	281
To Make Rubber Shoes in Munich.....	286
Flens Clastic as a House Plant.....	286
A Useful Rubber Code.....	282
Mr. Pierpont Morgan's Retort.....	274
News of the American Rubber Trade.....	279
The Textile Goods Market.....	284
Review of the Crude Rubber Market.....	285

## CRIMINAL COMPOUNDING.

A MANUFACTURER of hard rubber goods, whether in Europe or America it does not matter, was moved to discharge a foreman not long since for incompetence. The man left breathing "threatenings and slaughter," and the day following, the goods under the buffing wheels instead of being a smooth glossy black were filled with minute red specks. It was not until hundreds of dollars' worth had been spoiled that it was found that the lampblack was the trouble, that being mixed with red vulcanite dust. Naturally the manufacturer blamed the foreman and most bitterly, but the evidence was purely circumstantial and nothing could be done, nor could the sufferer himself be sure that his employer's suspicions were well founded.

Were this the only such case on record it would not be worth mentioning in these pages, but the story throws a side light upon a temptation that often assails workmen who are otherwise perfectly honest. The desire to prove to a former employer that things cannot run smoothly without his presence is the foundation of it, and that impulse, reinforced by a desire for revenge for real or fancied injuries, causes the man to become a criminal. Such a course is unworthy and foolish, and can never be aught but a cause for self reproach to the one who yields to the temptation. The world is small and the story of such happenings will leak out and follow one for years.

And just here comes in another phaze of the question that the manufacturer, although a sufferer, should in all honesty ponder. Rubber goods sometimes go wrong without any such aid. Were it to happen just after a man in charge of certain departments left, he might be suspected wrongfully and stay for the rest of his life under a cloud. All of which points to the importance to the worker of being so trusty as to be above suspicion, and to the manufacturer not to be unduly suspicious, and to employ men of character as well as ability.

## A CRYING EVIL AND A FEW LONG FELT WANTS.

FROM the beginning of time the world has been full of "crying evils," and those who appreciated them have been equally conscious of "long felt wants," and as far as we are able to pierce the mists of the future such conditions will continue. It is of its application to the India-rubber trade, however, that we wish to speak—not, perhaps, to the trade as a whole, but specifically to that division embracing the manufacture of mechanical rubber goods. In this line the evil is that of "dating ahead," and the "want" pluralized is a group of manufacturers who will put a stop to it—not collectively, but individually.

The dating ahead custom began some years ago in the marketing of  $\frac{3}{4}$ -inch garden hose, and in certain instances it has reached the stage where shipments in February or March are dated the September or October following. Now, under the pressure from buyers, the same evil is creeping into the sale of belting and other staple mechanicals. That this is not fair either to the manufacturer or



to the purchaser ought to be patent to both. It certainly is not just that the manufacturer should furnish capital for a large jobber or retailer unless he have a share in his profits, and the shrewd buyer should know that in the long run the interest that he saves on the amount involved is bound to be taken out of the goods; nor can he enjoy genuinely friendly relations with a man from whom he demands everything in sight. In other words, the shrewdest buyer on earth cannot get something for nothing all the time.

When dating ahead first began, conditions were somewhat different, for manufacturers were able then to purchase crude materials on just as long a time as the jobbers of their finished product demanded. As this passed the burden beyond the rubber manufacturers they were content, but even then it was not fair and was not good business. To-day manufacturers of raw materials, many of whom are in strong amalgamations, sell for "cash ten days," instead of on four months' time, and if the jobber doubts this, all he need to do is to try and buy cotton duck or litharge on time.

The remedy for dating ahead lies not in concerted action, nor in a slight depreciation in the quality of goods sold, but rather in each individual manufacturer taking the initiative, as if he were alone in the world and doing what he knows to be right and wise. If he be at all doubtful about the wisdom of calling a halt he has only to study the policy of some of the strongest and most successful manufacturers in his own line, who have long since eliminated dating ahead in everything they manufacture.

#### BUTTER AND RUBBER—A SUGGESTION.

THOSE persons who are inclined to think lightly—if they think at all—of the possible value of intelligent governmental aid to a common everyday industry might find something worthy of their attention in the history of the dairy interest of Denmark. That country is not adapted to the production of the great agricultural staples, and an important product of rural industry is butter. The limit of the local demand for this commodity having been reached years ago, the farmers essayed the exporting of their surplus, but at first without satisfactory results, for the reason that the butter lacked the firmness desirable for transportation over seas. The butter was good otherwise, however, and a scientific study was begun with a view to giving it greater firmness. This was a task beyond any one dairyman, and all the dairymen in Denmark working in concert might not have been qualified to solve the problem, which, finally, was worked out by a government commission. The solution was reached by experimenting with food for cows, the results being made known widely, in consequence of which the product of Danish dairies commands a higher price than any other butter imported into Great Britain—the greatest European market for butter. We do not know how much butter is exported from Denmark altogether, but Great Britain alone last year imported 190,739,584 pounds from that country, of the invoice value of \$45,269,944, or 23.7 cents per pound, yielding

about \$18 per head for the whole population of Denmark, the area of which is a little larger than Maryland, in the United States.

In every country where agriculture has progressed beyond a primitive state its followers owe much to the fruits of scientific investigation, even though the individual farmer may consider his daily practice a matter of course, or something which has suggested itself naturally to his ancestors. Not that all successful farming is due to the work of governmental institutions. Besides the discoveries resulting from the observations of individual intelligent agriculturists in every age, and communicated gradually to their fellows, there have been exceptional improvements in farming due to systematic study by exceptional men in this profession. England and the rest of the world owe much to the private agricultural experiment station at Rothamstead, in Hertford, where Sir John Lawes and Dr. Gilbert worked together for more than a half century in the study of plant foods and their absorption, leading to a new era of the understanding of the use of fertilizers. But two other such workers in this field may not appear again; besides, quicker results are now obtained through the scientific institutions maintained in the interest of agriculture in every civilized country. The United States, by the way, may be mentioned as being not behindhand in this field, with its sixty-two agricultural colleges, mostly with a public endowment, and its fifty-eight agricultural experiment stations, also supported chiefly at public expense, engaged in investigations planned by their conductors, and also offering their services to the farmers of their respective districts. The liberality of the government toward these institutions has not been paralleled in any other country, and the high standing of American agriculture is due in no small degree to the work that has been done in them. The best kinds of grain and fruits and live stock have been discovered or developed, soils analyzed, new processes of culture introduced, and parasites studied and ways found to check their ravages.

But why should the government confine its benefactions to agriculture? This was natural while that remained our leading interest, but to-day it is largely exceeded in the money value of its products by manufactures. We hear, however, of no broad and general attempt on the part of the government to aid manufactures by scientific research. Manufacturers must still proceed empirically, guided only by their own experience and by what they can learn by chance of the experience of others. An exception is to be noted in the case of highly organized industries, like oil refining, where the consolidation of interests makes possible scientific experiments on a large scale. Of how much value such experiments have proved to the Standard Oil Co. most men have a vague and general idea. But where competition prevails, leisure and capital for such experiments in a large way are lacking. Industrial experiment stations, which would take the form of laboratories, might be established for all branches of manufacture that have reached a certain grade of importance, measured by the value of their product. The expenditure of thousands in this way might mean millions of

dollars in the increased efficiency of such industries as the leather, textile, or India-rubber manufactures.

The chemistry of India-rubber forms one of the most complicated fields of applied science. One might count on his fingers all the men in the world who have made extensive scientific research in this field and much remains to be known about the chemical properties and possibilities of Caoutchouc. Of course, a large number of facts related to these problems are known to every competent rubber factory superintendent, but scores of problems remain unsolved. If the government would establish a rubber laboratory with a competent head, its value to the trade, and so indirectly to all the people of the United States, might be very great. The rubber interest is surely large enough to be in a position to ask for such help from the government, and conditions are such that trade does not satisfactorily do the work for itself. This course would gradually substitute science for empiricism and certainty for guess work, and no rubber man has been so uniformly successful that he should not welcome such a change.

There is now being organized a new department of the government of the United States—that of Commerce and Labor, in charge of a secretary ranking as a member of the Cabinet—partly in recognition of a growing feeling among manufacturers that their interests were being slighted at Washington as compared with the attention given to the promotion of agriculture. While the first work of the new department shall be to consolidate and improve certain branches of statistical work carried on hitherto in various other departments, including the national census, a study of the act creating the new branch of the government shows its head to be empowered “to foster, promote, and develop the various manufacturing industries,” by gathering and making available “useful information,” and “by such other methods and means as may be prescribed by the secretary or prescribed by law.” It would thus seem to be within the province of the new department, in its “bureau of manufactures,” ultimately to create experimental stations which should extend to manufacturing interests such helps as the government now affords to agriculture. Under the generally broad authorization of the law, the secretary of commerce and labor can do very much what he chooses to do—provided appropriations are forthcoming. It is encouraging to hear that the new cabinet minister is desirous of making of his office something more than a mere statistical office, and doubtless practical suggestions from manufacturers bearing upon their needs would be welcomed by him.

#### THE STOCK EXCHANGE AND BUSINESS.

THE opening the other day of the new home of the New York Stock Exchange, now the largest and most costly and sumptuous bourse in the world, is a matter of interest not alone to the brokers who do business there and their clients. Those persons who conceive of the stock exchange only as a place for speculative buying or selling, or where prices of shares are “manipulated” by

“insiders” at the expense of the unwary investor, see only an incidental side to an institution which exists only in answer to a wide and legitimate demand for a register of corporation values. The history of modern industrial development is the history of enterprise by means of joint stock companies, and the great readiness with which capital has been invested in such undertakings has been due to the growing facility with which such investments can be realized on.

With so much of the real wealth of the country held by corporations, large and small, the occasion is constant for buying and selling shares, just as the sale of real estate and other property individually owned is constant. And in order that every man who wants to buy or sell shares of a railway or manufacturing company may not be obliged to shop among his friends or even strangers for a chance to trade, and in order that something like established prices may prevail, and, above all, honest dealing, a recognized share market has become a necessity.

But the importance of the stock exchange extends further. The many owners of shares who do not want to sell are no less interested in knowing their real value than the much smaller number of owners who are sellers or buyers. Hence the daily reports of stock prices advertise to thousands and millions of people what each is worth in the way of corporation property, and, consciously or otherwise, owners of shares are thus influenced in their business plans, in the buying and selling of goods, in building for the future. The whole market cannot be influenced at once by manipulation, and a general decline in share values teaches conservatism in the matter of new undertakings, just as a rise suggests general prosperity and encourages increased efforts to expand businesses and industries. As the proportion of the country's wealth held by corporations increases, the importance of rightly reading stock quotations as a business barometer becomes greater, while interest in the effect of a “raid” on this or that stock becomes less.

The tendency of any stock exchange is gradually to require a higher standard, so to speak, of character for the securities admitted to trading privileges, and to give greater publicity to the facts regarding the condition of the companies represented by such securities. These tendencies, together with that of constantly getting nearer the real values of the securities, point to a time when trading in stocks will no more suggest speculation or “gambling” than trading in commercial commodities. Already the shares of many railways have been removed from the speculative list, and the reorganization of some more overcapitalized “industrials” will result in their securities being regarded in a different light than at present. The growth of the New York Stock Exchange, therefore, is worth considering as a factor in the commercial and industrial development of the country and the world, no matter if the opportunity does still exist in Wall street for the parting of the fool and his money. That was easy enough before stock exchanges were ever thought of.

THE FORTY MILLION DOLLAR BICYCLE TRUST has surprised no one by coming to grief. The financial world, by the way,



has not seen more kinds of failure comprised in the history of any large company based upon a legitimate industry. At one time a number of capable, forceful manufacturers, each a master of his trade, were making bicycles and selling them at a profit. There were also incapable men in the field, making bicycles and selling them at a loss. Then came a combination of practically the whole business, good and bad elements alike, in the hands of a board of directors and of high salaried officers, who stood too far aloof from their business to win success in it, had they been never so well qualified for their positions. The result was not unlike what might be expected in the case of a blind man who insisted on riding a wheel near the brink of a precipice. It is not enough to attribute the failure of the big company to a decline in cycling, for the "trust" may have assisted in that decline. When the bicycle first came into use it was not in response to any existing demand. The demand was largely created through the efforts of such energetic pioneers

as Colonel Albert A. Pope, who, having made a market, proceeded to supply it and to reap a profit from so doing. Bicycles are like most other things, in that they will not sell themselves. It is interesting to note that the gentleman named here, after having relinquished his business to the "trust," stands to-day in possession of what has been left from the wreck of the whole trade. And there is reason to hope that the substitution of intelligent individuality for irresponsible control by a board will place the industry again upon a sound basis. The rubber trade can hardly fail to benefit from an increased demand, in years to come, for bicycle tires.

THE PHOTOGRAPHS OF MEXICAN VIEWS used in illustrating the letter from the rubber planting district on the isthmus of Tehuantepec, printed in this issue, were supplied by C. B. Waite, a photographer in the City of Mexico, and are protected by copyright.

## RUBBER PLANTING ENTERPRISES.

### BADGER MEXICAN PLANTERS' CO.

[Plantation near San Juan Evangelista, state of Vera Cruz, Mexico. Office: Racine, Wisconsin.]

INCORPORATED January 2, 1903, under Maine laws, to buy and cultivate for a second organization 10,000 acres of land on Trinidad river, to grow rubber and sugar. The land embraces a partially developed property, acquired from E. A. Dorman, and planted to rubber—now four years old—and coffee. A sugar mill will be erected this year, and considerable sugar will be planted. The officers are: *William W. Allis*, president Allis-Chalmers Co., president; *Frank K. Bull*, president J. I. Case Threshing Machine Co., vice president; *Charles R. Carpenter*, cashier Racine Commercial and Savings Bank, treasurer; *Warren E. Fish*, general auditor J. I. Case company, secretary. The other directors are Charles E. Tingley, Boston, Mass.; H. A. J. Upham, Milwaukee; Fred Carney, Jr., Marinette, Wis.; E. A. James, Chicago.

### JOLIET TROPICAL PLANTATION CO.

[Plantation at Tierra Blanca, state of Vera Cruz, Mexico. Office: Joliet, Illinois. See THE INDIA RUBBER WORLD, February 1, 1903, page 14.]

THE company announce that the sale of the 1200 shares first offered, beginning about September 15, 1902, was completed on February 12, 1903. Additional land having been purchased, 900 more shares were put on sale, making a total of 2100 shares, there being an undivided  $1\frac{1}{2}$  acre to each share. The price of shares is \$350. Development work began on January 1 last. The company hope to get 600 acres planted to rubber this year, with corn between the rows. Four sources of income are looked to for dividends while the rubber is maturing: (1) rent of laborers' houses; (2) rent of pasture lands; (3) profits from the company's store; (4) proceeds of the corn crop. Two thousand acres of pasture land are now rented. The present price of corn, of which two crops per year are expected, is equal to 60 cents per bushel, gold. Shareholders are not encouraged, however, to expect quick dividends or very large ones at first.

### LA NUEVA PROVIDENCIA RUBBER CO.

[Plantation at La Nueva Providencia, department of Escuintla, Guatemala. Office: Providence, Rhode Island.]

INCORPORATED January 8, 1903, under Rhode Island laws; capital, \$20,000. Own 2000 acres, on which there are some wild rubber trees which will be tapped, and are now planting rubber from nurseries. The officers, all financially interested, are: *Edwin H. Snow* (president), of the important printing house of Snow & Farnham, Providence; *Leo F. Nadeau* (vice president),

fire insurance; *Clyde E. Gardner* (general manager), rubber and lumber merchant, Guatemala, with sixteen years' experience three.

### UTAH-MEXICAN RUBBER CO.

[Plantation on the Mescalapa river, state of Tabasco, Mexico. Office: Salt Lake City, Utah.]

INCORPORATED April 11, 1903, under the laws of Utah; capital, \$100,000. This company has been formed on the recommendation of Noble Warrum, Jr., and Aquila Nebeker, after a visit of investigation to Mexico, where 10,000 acres have been purchased on a navigable river and near a railway. The purchase includes a large rubber nursery and it is stated that the first planting is now in progress. The officers are: John Henry Smith, president; W. S. McCornick, vice president and treasurer; and John A. McAllister, secretary. The other directors are Joseph F. Smith, Thomas R. Cutler, Frank Knox, W. B. Preston, J. S. Bransford, B. F. Grant, and John P. Hammond. Mr. Grant some time ago wrote to THE INDIA RUBBER WORLD enthusiastically in regard to the rubber planting outlook, after a visit to Mexico.

### ROCHESTER-MEXICAN PLANTATION CO.

[Plantation "Las Lomas," on the river Coatzacoalcas, state of Vera Cruz, Mexico. Office: Granite building, Rochester, New York.]

INCORPORATED November 27, 1901, under New York laws; capital \$60,000. Purchased a plantation cleared and planted in 1899, to 120,000 coffee trees and 8000 rubber trees; 30,500 additional rubber trees were planted in 1902. Officers: Charles H. Angel, president; A. S. Pendry (referred to as an expert tropical planter), vice president; John B. Snyder, secretary; John L. Zeeveld, treasurer.

### THE OBISPO RUBBER PLANTATION CO.

[Plantation "San Silverio el Obispo," state of Oaxaca, Mexico. Office: No. 52 Broadway, New York.]

THE report of the annual inspection of this property, made by Captain W. B. Porter, of New York, dated March 30, 1903, mentions the satisfactory growth of the rubber planted in 1901 and 1902 and states that Mr. Maxwell Riddle, the resident manager of the plantation, was planning to put 850 acres additional in rubber this season.

\* \* \*

THE Trinidad Rubber Co. (Los Angeles, California), having a plantation under development at San Juan Evangelista, in the state of Vera Cruz, Mexico, have filed a certificate of increase of capital stock under their California charter from \$100,000 to \$200,000.

## RUBBER PLANTING ON THE ISTHMUS OF TEHUANTEPEC.

*As Seen by the Editor of "The India Rubber World."*

## FIRST LETTER.

Foreword—From New York to the Border—Over the Alkali Plains—Native Food—Mexican Opals—The Nochistongo Canal—Arrival at Mexico City—Journey South of the Capital—Adventures at Achotal—On Horseback Over Forest Trails—The Demarest and Newmark Estates—Arrival at "La Ventura"

MY journey to the *Tierra Caliente*, or "hot country," in Mexico, was taken with the sole object of seeing for myself cultivated rubber, planted by both individuals and stock companies. I selected typical plantations as far as I could, most of them in the state of Vera Cruz, on the isthmus of Tehuantepec. The states of Tabasco and much of Oaxaca and Chiapas I was forced to leave out of my itinerary, although they too have large and successful plantings, which I hope to visit later. I left New York quietly and alone, paid all my own expenses for the whole trip, and carefully avoided exploiting either myself or those who have shares or land to market. This statement seems necessary, because, since my return, I have been asked in all seriousness whether this or that company had me "under its wing" to use later for advertising purposes. I wish also to add a word of thanks for the courtesy, the generous hospitality, and the frank, helpful cordiality extended to me by the planters whom it was my good fortune to visit. May I add that, of the conclusions drawn from my visit, while they prove to me that certain procedure in clearing, planting, care, etc., is vital in the localities under consideration, it



NATIVE HUI IN THE STATE OF VERA CRUZ.

does not follow that, given a different locality, soil, and climatic conditions, other methods might not prove necessary. I have chosen the narrative style for the relation of my experiences, as it is the easiest way to transcribe my notes, and I would say further that imagination has not entered at all into this chronicle, as it is in every respect the record of facts as I saw them.

IN spite of an innate belief in my own preparedness for the Mexican pilgrimage, when ready to start I lost no time in consulting persons who had gone before as to material equipment for the journey. The advice received resolved itself into the purchase of a broad brimmed soft hat, negligé shirts, light flannel underwear, a "navy bag" (a dress suit case on horseback being a source of worry and a constant temptation to landing on one's head), and a pair

of long legged moosehide "snake boots." To this was added, later, a Colts' revolver and holster, to be worn in the unsettled country south of the City of Mexico; a rubber poncho coat that looked like a long tan colored nightshirt, a linen suit, and, for medicines, a box of cascabels, a bottle of chloranodyne, and a pint of two grain quinine pills. Had I appreciated the pertinacity of the Mexican flea I should have added a blower and a pound or two of Dalmatian powder.

It was snowing when our train left Jersey City and started for the southland. Nor did winter really forsake us until we were well into the Indian Territory. As a matter of fact, I do not really think I realized that I was on my way to the land of the *Castilloa* until I awoke one morning and saw the dwarf cactus that grew by the side of the track, and further on, at San Antonio, Texas, began to note the picturesque Mexican costumes and the subtle differences in architecture, climate, and soil, that proclaimed our nearness to a land of strange people, customs, and language.

Finally we crossed the Rio Grande, drew up on Mexican soil, had our baggage examined by dark complexioned officials who were polite beyond belief, changed our money, getting \$2.58 for each \$1 of Uncle Sam's currency, and were at length in the land of the Aztecs.

THE border town where we made our entry is known as Ciudad Porfirio Diaz—the first word meaning "city." Here all was Spanish, or rather Mexican, the adobe houses, the

OVER THE BORDER.



CANE FIBER RAINCOAT.

half clad Indian children who begged softly "*un centavo Señor*," and the placid care-free appearance of the railroad men, who had the air of having but little on their minds and no cause for hurry or worry—all in marked contrast to the hustling, bustling, atmosphere that is so much in evidence on this side of the border. After pulling out of Diaz we retired, slept soundly, and waked to breakfast in Torreon, 3700 feet above the level of the sea. It was a real Mexican breakfast, although cooked and served by Chinese, and eaten in a leisurely way that did not at all suggest a waiting train.

To digress a moment, when I say we, I refer to myself and whatever chance acquaintance I might at the moment be thrown with. As far as Torreon I had had three such—a sugar planter who left at St. Louis, an army officer home from the Philippines



CANE FIBER RAINCOAT.



who got off at San Antonio, and a young English mining engineer who was to establish himself permanently at Zacatecas. The last named was a nice fellow, but very serious withal, and responded with extreme reluctance to any attempted humor. For example, he had noted, as I had, the influx of Americans to the country, and said:

"By the way, those planters now, what do they raise?"

I replied: "The older ones, who are settled down, raise pineapples, cacao, and rubber. Most of the younger ones raise Cain."

"But don't any of the older ones go into the sugar business, too?" he inquired.

THE whole of the first day's ride on Mexican soil was through a lofty plateau,

very bare  
FIRST and dry, the  
DAY chief vege-  
RIDE. tation being

the giant cactus. In spite of the closing of the car windows, the fine alkali dust sifted in, coating everything, and making it quite difficult to breathe. Toward evening we reached the mining city of Zacatecas, which is more than 8000 feet above the sea level, and where we were told that we should have difficulty in breathing, because of the rarefied atmosphere. As a matter of fact, none of us suffered the slightest inconvenience. We did suffer a disappointment in not being able to see the city, which lies hundreds of feet below the railway, but night had fallen and we could only guess its location from

the twinkling lights far below us. The next morning we passed through Queretara, where Maximilian was executed, and breakfasted at Tula, a station some miles further on. Here we were introduced afresh to the staple articles of Mexican food, the *tortilla* and the *frijole*. The former is a flat cake of unleavened bread made of corn flour that tears like blotting paper and is about as palatable. It is made by the native women, who treat the corn first with a solution of lye to destroy the outer skin and then crush it on a little three legged stone table called a *matate*, by means of a stone *mano* or rolling pin. This, mixed with water, is baked, and is apparently much prized by the natives. The *frijoles* or Mexican beans are of two kinds, *negros* and *blanca*—

that is, black and white. To my palate the black ones are altogether the best, although I enjoyed both. The Mexicans are also very fond of meats which are cooked almost as soon as killed, and, therefore, apt to be tough. In their cooking they use a great deal of lard and make a greasy compound that a *gringo* stomach finds hard to digest.

I THINK it was at Tula that we got a first sight of Mexican opals. It is well known that almost every visitor to the land of the Aztecs has a vision of the purchase of opals at an exceedingly low price, and the best of stones at that. It was here that we all had our chance. Several dark

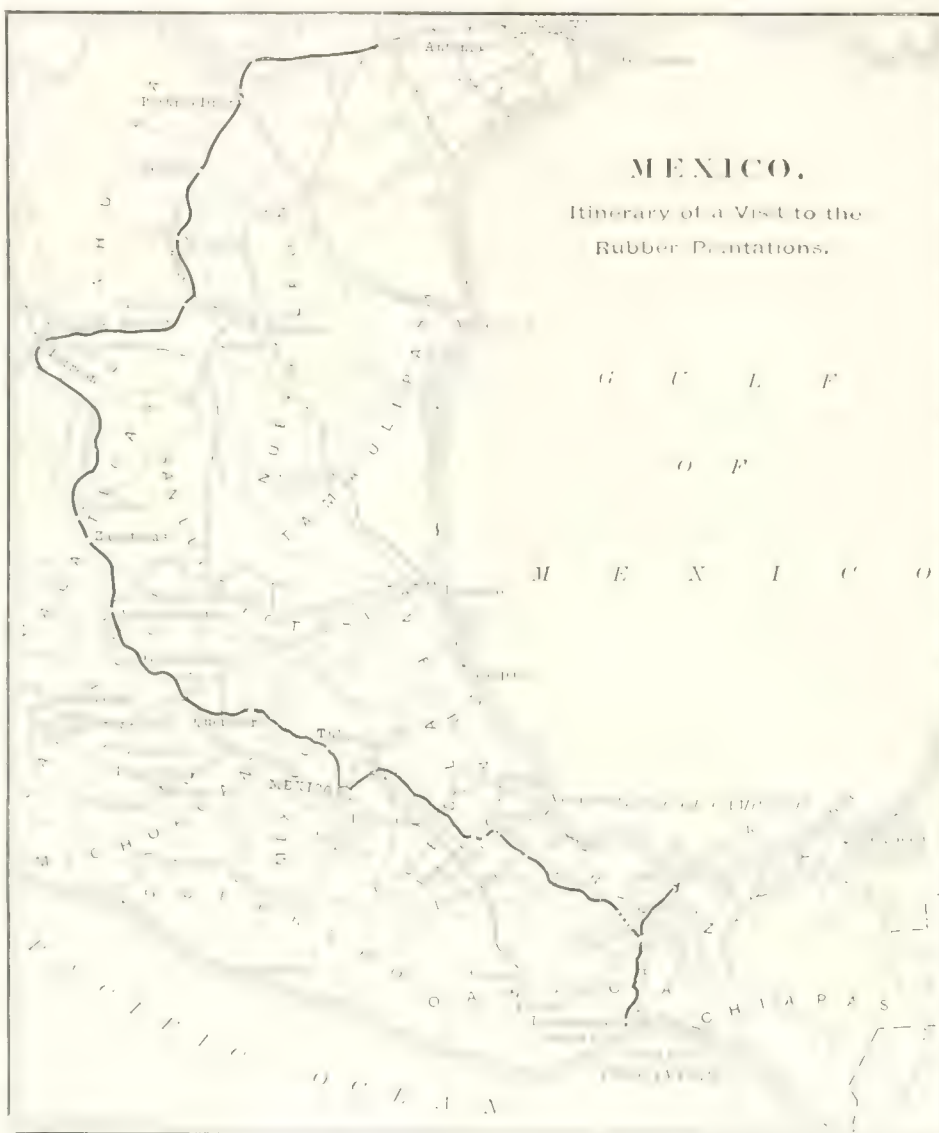
hued vendors showed packages of stones that were beauties. The asking price was high, however, and was lowered only when the train began to move. We all knew what this meant. A hurried assent, the transfer of the coin and the package of opals, and the subsequent discovery that another package of less valuable stones had been deftly substituted. So we all refused to purchase. Did I say all? One shrewd Yankee watched his chance, made his purchase, and came back chuckling.

"I fixed that *mozo*," he said; "I gave him four big Mexican cents instead of as many quarters." When he opened his packet, however, his face fell, for it contained only common pebbles.

A few miles south of this we had a fine view of the great Nochis-

tongo canal, which in some parts is 600 feet wide and 200 feet deep, begun back in 1608, as a drainage canal for the valley of Mexico. The railroad runs for miles by the side of it, and when one appreciates the fact that every bit of the earth was taken out in baskets on the backs of peons, the magnitude of the work is appalling. The canal was never completed, as there was an error in the levels amounting to about 40 feet, over which the water refused to run.

SOON after this the eternal snows of Popocatepetl and Ixtacihuatl sprang into sight, and although few of the passengers pronounced either of the words correctly, all seemed to be sufficiently impressed. We





PRIMITIVE MEANS OF TRANSPORTATION.

learned here that the former of the two mountains had been purchased by the Standard Oil Co., who are to work the vast sulphur deposits in the crater above the snows. The second volcano was exploited to us by a polite Mexican, who said that the Aztec name meant "the lady of the snows," and pointed out that the irregular peaks of this mountain, with their snowy mantle, took on the figure of a woman lying on her back with her arms folded. All the rest of the party said that the likeness was perfect, and to save trouble I agreed with them, but it really looked more like a couple of huge circus tents fresh from the laundry.

SHORTLY after this we reached the City of Mexico, took a carriage, drove to a hotel that was built in a hollow square, and that had tiled floors, stuccoed walls, and rooms without baths, unpacked our traps, sent out and bought soap, and spent two hours in making alkaline solutions from the various strata of dust that had settled upon our editorial person.

It was midday and hot, uncomfortably so in the sun, and just here I want to speak of the climate of the city, and then dismiss the matter forever. It may be all that is claimed for it by guidebooks and railway folders, at certain seasons, but it struck me as far from perfect. At night it was so cool that a heavy suit and a light overcoat were necessary, while in the middle of the day one yearned for pajamas and sandals. When one gets really chilly there seem to be but two places to get warm; one is the United States and the other the isthmus of Tehuantepec. There doesn't exist a fireplace, a stove, or any sort of heating apparatus in hotel or private house. Indeed the inhabitants of the city claim that such are unhealthy, and the result is that every stranger courts pneumonia, unless exceedingly careful. The city itself is beautiful, and has a chocolate colored policeman at every corner, a polite little chap who appreciates a tip or a good cigar, and who will do anything in reason for the well behaved.

I spent two days in the capital, and was very much impressed with its beauties. For a description of the buildings, customs, and places of interest, one need only turn to the many excellent guidebooks on sale everywhere. There are two points, however, which these publications do not touch upon. One is the very sincere and deserved admiration which visitors of every nation openly express for President Diaz, and another is the fact that American money-makers, in a great variety of lines, are getting a very strong foothold in the city, to its marked benefit and to theirs.

LIKE any other tenderfoot, I had brought with me a lot of luggage which a closer view of conditions in the *Tierra Caliente* showed to be unnecessary. Most of this I left in the City of

STARTING  
SOUTH.

Mexico, and started forth early one morning, clad in a summer suit, flannel shirt, broad-brimmed hat, with a Colt .38 strapped to my waist, and bearing for luggage a small bag and a Mexican blanket. I found the conditions on trains south of Mexico city radically different from those to the north. There were, for example, first, second, and third class cars, with no Pullmans. The first class car might have been a baggage car for all the luggage that the passengers had, and it might have been a smoking car for the way in which both sexes smoked cigarettes; indeed, it might have been a barroom for the way that the train boy served native cognac and beer. My seatmate, a powerful Swede, appreciated some of these Providences more than I did. As he was interested in rubber planting, and particularly as he understood Spanish, we became quite friendly, and before I knew it he was taking my trip right out of my hands. He verbally hustled me through Mexico, and by this time would have had me in Patagonia had I not put on the brakes.

The first part of the journey from the city, the road ran through enormous *maguay* plantations, from which Mexico's national drink, the *pulque*, is drawn. Then after miles of dusty plain, the road (near Esperanza) runs close to the mountain side, disclosing, some 4000 feet below, the little native village of Maltrata. Zigzagging round the mountain, tunneling through projecting rocks, clinging to the edge of awful precipices, the train curves and slides, until it finally gets down to the plain, and the powerful double headed locomotive which held it back stops with a veritable sigh of relief.

Leaving Maltrata, the course still continues down hill, following the windings of a mountain stream some hundreds of feet below, until we finally sight Orizaba, clothed in eternal snow, lifting its head high above all surrounding peaks, and to my mind far more beautiful and impressive than Popocatepetl or its sister summit, over which tourists rave. After a brief stop at the mountain hedged city of Orizaba, we left the train at Cordoba, where the Spanish of my traveling companion was most helpful in securing accommodation at a little Mexican hotel where we had a really good dinner and comfortable beds.

IN the morning we took an early train over the Vera Cruz and Pacific road for Achotal, its terminus. Although the run UNSETTLED is not a long one, it takes from 6 o'clock in the COUNTRY. morning till 1 the following morning to make it.

That we were getting into an unsettled country was much more apparent than ever before, the cars being guarded by *rurales* (the native military police), and the passengers, both Americans and Mexicans, having the free and easy demeanor which characterized the early days of the Far West. The conductors and train hands were Americans, as were many of the



MAGUEY PLANTATION NEAR MEXICO CITY.





LOOKING DOWN UPON MALIKATA FROM THE TRAIN.

passengers, all going south and most of them interested in planting projects. As was natural, the Americans and English gravitated together, and I heard many interesting facts concerning the country and much concerning rubber planting. The verdict of those who were not directly interested in the business seemed to be that there was nothing in it, and that rubber trees could never be grown. Indeed, one passenger said flatly that he had been in the country a number of years, had never seen a rubber tree, and didn't believe they could be grown anyhow. This did not seem to disturb the serenity of the planters, who didn't argue the matter at all, but let the others talk. We passed a rather wearisome day on the train, stopping occasionally for meals and getting them served more and more in pioneer fashion. I had intended to stop off at Tierra Blanca, in the vicinity of which are large plantations, but learning that the men whom I most wished to see were absent, I left that for a later visit. Finally, at 1 o'clock in the morning, we reached Achotal, the train returning at once and leaving us standing on the platform of the only frame building in the place, the depot, which was promptly locked.

I am moved to tell of my experience at Achotal, not to deter the timid or comfort loving from venturing into this part of the country, but as a bit of history, for within a very few months it will cease to be a pioneer railroad terminal, with its tramps, its native workmen, its flourishing *cantina*, and will settle down as a safe, prosaic, Mexican way station. In fact this change was almost due when I was there, for track had been hastily laid and construction trains run down to Santa Lucretia, where it is to join with the National Tehuantepec railway. This construction train, by the way, we were to take some time about 6 o'clock in the morning, and after riding some 15 kilometers, I planned to stop at Santa Rosa, and thus reach a large private rubber plantation operated by an oldtime friend of mine.

To be left in a town like Achotal at 1 o'clock in the morning with the knowledge that it would be hard work to get a bed, is not a particularly cheerful prospect. One of my planter friends, Mr. W. L. Adams, of Ixtal, however, whom I shall always remember gratefully, piloted me across the muddy track, walked me over a narrow, springy plank which rested against a steep bank, and I saw fronting me the few palm thatched native huts which make up the town. En-

tering one of these we found that there was no room at all, every available space being taken by canvas cots and conscientious snorers. Leading me further up the hill, however, he forced his way into another hut, roused the owner, and finally secured for me a cot. This I took possession of and prepared to make myself comfortable, as had a half dozen Mexicans, each of whom had a similar resting place.

All were not asleep, however; in fact my nearest neighbor, a muscular young *mozo*,\* was just disrobing. While he undressed, his hat, which lay on the cot, showed that it was pre-empted. Everything was peaceful, the snores of the sleepers, the stamping of the horses outside, the grunting of the pigs that had come in the open doorway and were seeking what they could devour, and the scratching of the flea tormented dogs, being the only sounds of life. Breaking in upon all this peace came the big Swede, with a very substantial "jag" and took possession of the *mozo's* cot, throwing his hat upon the floor, whereupon the native drew his knife preparatory to a pointed argument. Not that I cared particularly for the *mozo*, or for the Swede, but in the interests of fair play I interfered, telling the latter that if he insisted upon taking the cot, the *mozo* should have mine, whereupon he went out with some grumbling, and wrapping myself in my blanket I went to sleep, feeling that I had done a good turn for a dark-skinned, downtrodden brother. I was not to rest long, however, for I was awakened by the reëtrance of the Swede, who came to inquire

politely if the strangeness of my surroundings kept me from sleeping. I assured him they did not, and he departed satisfied and I dropped off to sleep again. Suddenly, however, I was awakened by the feeling that some one was looking me in the face and opening my eyes I saw the *mozo* with his face about three inches from mine and his hand outstretched toward my breast pocket. I have forgotten just what I said to him, but it was most emphatic, and he

went back and lay down, while I, wrapping my blanket tightly about me, dropped into another doze, but not for long. Back came the Swede, with more of a "jag" than ever, and sat on the side of my cot and wished aloud that he had a place to lie down, so I got up and gave him my cot and went and sat in the doorway and smoked and thought.

\* A common "hot country" appellation for an agricultural laborer.



MOUNTAIN CLIMBING ENGINE.



SNOW CAPPED ORIZABA.

At 5 o'clock I succeeded in getting some coffee, which greatly refreshed me, and at 9 o'clock boarded the construction train, which was made up of a wood burning engine, a boxcar for passengers, and two flat cars loaded with railroad ties, *motos* and negroes. We crept along at a snail's pace over the temporary track, which was not ballasted and which had sunk almost out of sight sometimes in the clayey mud and sometimes slid a foot or two to right or left, threatening to overturn the car. That this latter was no idle dream was indicated by several boxcars which we saw which had been tipped off into ditches along the side. We finally reached Santa Rosa and disembarked—that is, I did, and my cheerful planter friend, Adams, while all the rest went on. Santa Rosa station is not a large one, the only building there being a ruined hut of native build, that had been in use when the pioneer railway camp was there.

ON the opposite side of the track, however, the land had been cleared and planted to *Castilloa*, a part of the Demarest estate, my first sight of the cultivated trees. They were growing on a well drained hillside, in a rich, loamy soil, with a substratum of clay, and, although shedding their leaves, as they always do at the beginning of the dry season, they looked thrifty and healthy. My companion sent one of his men off through the forest to secure horses, and while he did that I drank in the beauties of that tropical scene. It was a glorious morning and everything possessed the charm of novelty. The huge forest trees, studded with orchids and epiphytes, the marvelously dense growth where no clearing had been made, a growth of trees, vines, and climbers so thick that it would have been impossible to go ten feet through it without cutting one's way, the parrots chattering in the trees, the brilliant macaws flying to and fro, and the wealth of flowers big and little, held me spell-bound. I was awakened from my reverie by Mr. Adams, who led me up over the hill where lived the owner of the rubber trees, who welcomed us warmly, prepared an abundant meal and chatted most entertainingly about the country and its prospects.

After a *siesta*, the horses having come, we mounted and trotted gaily away; that is, Mr. Adams did, but as I had not been on horseback since I was ten years old, I felt anything but frivolous. A Mexican saddle, however, kept me within bounds, and very soon the trail entered the virgin forest and got so rough and muddy that the trot calmed down to a walk, much to my satisfaction.

I don't think I shall ever forget one



STREET SCENE IN CORDOBA.

particular place in that road, where we had to cross a muddy ravine with steep, clayey banks on either side, or how I sat back as far as possible while the horse slid down to the bottom, and then suddenly reversed my position and got one hand tight in his mane while he scrambled up the other; nor will I forget how he tried to get out of the mud in the middle of the trail by walking close to the trees, and of my frantic efforts to keep him away from the spiny palms and numerous other

bristling projections of the forest. We finally emerged into the open, however, and as we came out my companion asked me how I liked it. I had by that time gotten into the spirit of the thing and was thoroughly enjoying it, so that I could conscientiously say, "first rate."

"Well, that's the worst trail around here," he replied; "I thought you might as well have that at the beginning."

THE rest of the ride was through a magnificent stand of cultivated *Castilloa* trees, planted on rolling ground, about nine feet apart, showing every evidence of intelligent care. About half an hour later we drew up at Newmark's plantation, which is known as "El Ritiro," and is a private venture embracing some 400 acres of land, on which are about 50,000 rubber trees planted four or five feet apart in the rows. They looked finely, and indeed the whole place, with its coffee, bananas, etc., appeared to be most flourishing. Here I was treated to a small red banana about the size of one's thumb, that was the most delicious bit of fruit one can imagine. I now parted from Mr. Adams, and, being

▲  
RESTING  
PLACE.



"FICUS BENJAMINA."

taken in charge by Mr. Newmark, soon reached "La Ventura," and entered the house that was to be my headquarters during my stay in the Trinidad river district.

I had not seen my friend Harvey, the founder of this tropical enterprise, since we dined together at the Lotos Club in New York four years before. He was then yearning to shake the snows of the north from his feet and hasten back to the land where winter was unknown. I doubt if he believed that I would ever redeem my promise given then to visit him, and it was not for some time that I learned the cause for this scepticism. It seems that many northerners come to the City of Mexico—some venture to Orizaba and points easy of access further south, but few get as far as Achotal. Only a short time previous a well known New York lawyer arrived there at one in the morning, saw what he was "up against," boarded the train and started back, though within 10 miles of his destination, and that was why my host exclaimed:

"By Jove, you are really here!"



## THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

**T**HE talk of the moment is on the forthcoming actions which the Dunlop company are bringing against Moseley's and the North British for alleged infringement of the beaded tire tread. It is said by the Dunlop company that the patent in question did not lapse early in March, as generally supposed, but that it forms part of the Welch patent, which runs until October, 1904. Up to now Moseley's have not made this tread, though they had an arrangement with Dunlop as to royalty should they have decided to make it; now they are making it and do not admit that any royalty is payable. A season's trade is evidently worth having, or one would hardly have thought that costly litigation would be justified in the case of a patent having little more than a year to run.

**T**HE other day a professional man was making some very caustic remarks to me about the slackness of the British rubber manufacturer to develop new business. It seems that he had required a special article made of rubber and that the various shops he had gone to were not disposed to consider the business. "This is what they do and then they complain about bad trade," was his remark. After a time, however, I succeeded in convincing him that the rubber salesman and the works behind him probably knew their business best, and that it was only reasonable that they should not jump at putting themselves to the inconvenience and expense of making one special article for which there was no general demand. I know one firm who made it a rule never to refuse an order of this kind, and I also know that other firms when approached on such business used to advise their customer to go to the firm who used to take up and lose on this class of order. Of course each case should be judged on its merits, but it certainly is very doubtful whether the policy of never refusing an order is in the long run justified by its results. Certainly as far as my experience goes the firms who leave odds and ends to their competitors have shown the best financial results.

**A** FRIEND of mine who has visited the recent automobile exhibition at Berlin tells me that what struck him as the greatest novelty in tires was the Lins patent detachable tread. This is a sort of grooved arrangement by which the tread can be fitted easily into the cover without necessitating any solutioning or vulcanization.==Mr. Perry's article in the March issue of THE INDIA RUBBER WORLD with regard to the general displacement of solid tires in Paris by pneumatics has occasioned some surprise to English manufacturers. But it seems to be largely a case of circumstances, although it is generally supposed that the solid stands rough roads better than the pneumatic; yet it seems to be the case that in Paris this is not so, the flint gravel of the Parisian streets acting more injuriously on the solid than on the pneumatic. I am assured by an English manufacturer that similar circumstances do not occur in England, and that the supremacy of the solid tire does not, at present at any rate, show signs of being assailed.==The New York Wheel and Rubber Tyre Co. having recently changed their title to the De Nevers Rubber Tyre Co., the warning as to confusion of title with another firm of transatlantic origin has now no significance.==I hear that the Manchester Wedge-Tyre Co., Limited, of Pollard street, Ancoats, Manchester, have lately experienced an increased demand for their

tires, which have now had a sufficient time to prove their value.

**T**HE question of standard parts and sizes of machines has, I believe, long been settled affirmatively in the United States, and is now agitating our engineers. It has also come to the fore in connection with electrical instruments, in which the vulcanite manufacturer is interested. An English maker of vulcanite goods tells me that the electric business would be much easier and more profitable if the system of standard parts were adopted, and says he has hopes that this desideratum will shortly be a matter of fact.

**M**Y excuse for the perceptible shortness of this month's communication compared with what I usually write must be my absence from England in France and Italy. When I say that I am posting this from Monte Carlo, my readers will recognize that India-rubber factories do not loom prominently in the geographical horizon and that the varied attractions of the place cannot be considered as incentives to scientific or technical writing. Of course there is a good deal of speculation in the purchase of raw rubber, but it is not exactly of the character associated with the *tapis verb.* Naturally, with the brilliant sunshine with which this spot is favored during so many months of the year, the macintosh is very little in demand, though rubber in the form of motor-car tires meets the eye at every point, cars of the most luxurious character being met with in rather too great numbers, considering the narrowness of the roads.

**S**OME two years ago I sent THE INDIA RUBBER WORLD some notes on rubber manufacturing in Italy and I have nothing much to add on the present occasion. The number of works has not been increased, Messrs. Pirelli & Co., of Milan, if we leave out of account two small concerns, having practically the whole business in their hands. I had a pleasant conversation with Engineer Emilio Invernizzi, of the electrical staff of the Messrs. Pirelli, and he recalled the notice given in THE INDIA RUBBER WORLD of the firm's exhibit at the last Paris exhibition. The Institution of Electrical Engineers of London are visiting the works this week, the event being looked upon as of some importance. I was presented with a copy of the Italian edition of the descriptive booklet of the works specially prepared for the occasion, and I hope to give some extracts from it in my next correspondence.

**A**S far as I could judge by cursory glances at the shops exhibiting rubber goods in Venice and other towns, America is represented principally by the rubber boots and shoes of the Candee company, though I cannot say that I saw any of these goods in actual use. Turning from the particular to the general, there is abundant evidence everywhere in the north of Italy of the progress of manufactures and the increase of wealth, a necessary consequent of which must be a larger demand for rubber goods of all kinds. With, however, the protective tariffs imposed in accordance with Crispi's schemes for the progress of the country, there is not much chance of this prospective increase being satisfied by outside manufacturers, which is the same thing as prophesying yet further financial triumphs for the great Milan firm referred to above.

**M**R. H. HOLLAND has been appointed manager of the European depôt of the United States Rubber Co., in London, having gained no little knowledge of the trade through his association with the late John W. Knott, whom he succeeds.

## GATHERING RUBBER UNDERGROUND.

SOME experiments in rubber culture in progress in Africa may lead to the extensive growing of a class of rubber plants which, while little has been known of them hitherto, are already of commercial importance. It now appears that the *Landolphia* climbers supply a smaller proportion of the African rubber output than has been supposed. What the French call *Caoutchouc des herbes*, and the Germans *wurzelkautschuk* (root rubber), is really what the natives in many districts have been collecting for several years, in quantities not suspected until recently. The latest scientific investigation of the sources of African rubber, however, confirm casual statements made from time to time by explorers and traders about rubber being obtained underground. An English physician, visiting missionary stations in Angola (Portuguese West Africa) twelve years ago, while on the Bihé plateau, inland from the seaport of Benguela, and among the headwaters of the Kwanza river, recorded in his notes:\*

Rubber has to be dug for with hoes, only a small plant showing above ground, the roots, from which it is obtained, running along for many yards, about six inches below the surface, varying in size from a quarter inch to an inch and a half. These roots are beaten with wooden mallets and boiled in water; when the rubber dissolves out it is collected and formed into balls, mixed a good deal with woody fiber.

The United States consul in Angola had already reported, in 1891,† that about three years previously a new source of rubber had been discovered in the Bihé country, and he was given to understand that the great increase in rubber shipments from the port of Benguela which followed had been due to this discovery. From a hundred tons or so yearly, before that period, the Benguela exports continued to increase until amounting in a single year to 5,000,000 pounds. Mr. Frank Vincent, an American traveler,‡ next contributed a note on the subject:

Governor Paula Cid told me that in the year 1887 the exports of Benguela took a sudden jump upwards, owing to the appearance in the markets of a new kind of India-rubber, which is extracted from the roots of a small shrub that grows spontaneously on the banks of certain rivers in the interior.

The British consul at Loanda in 1899 reported: "Angola rubber is said to come very largely from a small creeper which struggles over sandy soil or desert places, incapable apparently of other productions."

The above quotations state precisely what has been found to be true of rubber gathering, not only in Angola, but in parts of the Congo Free State, French Congo, and other districts in Africa. Years later the botanist Baum, traveling in the German possessions south of Angola, observed the collection of "root rubber" on which he reported fully, with photographs

of the various operations involved§—not for the interest of the curious, but to depict a considerable industry along the river Kunene. It is true that some of the earlier mentions of "root rubber" confused it with "Almeidina," a cheap gum exported in small quantities from the port of Mossamedes, in Angola, but not included in the customs returns of rubber shipments. The name "potato rubber," sometimes given to the latter, related to the appearance of the balls into which it was formed, and not to its source, though it did lead to the impression that it was dug from the earth as tubers.

The botanists are yet struggling with the nomenclature of this class of rubber plants, though agreed that they belong to the natural order *Apocynaceæ* and are confined mainly to two genera—*Carpodinus* and *Landolphia*. The *Carpodinus lanceolatus* is supposed to yield the greater part of the rubber known as "Benguela niggers" and Lower Congo "thimbles." Dr. David Morris says:\*

The interesting point is that these are neither trees nor shrubby climbers, as other rubber yielding plants in tropical Africa. They are described as low plants with slender, semi-herbaceous stems one to two feet high, and white aromatic flowers. They are found in great abundance on the sandy expanses in the Kwango district south of Stanley Pool [on the Congo river], and from this region alone it is said that 500 tons of rubber are produced yearly. . . . Although the stems contain rubber, the larger share is at present obtained from the creeping underground stems (*rhizomes*). These are about an inch in diameter and the natives extract the rubber by rasping them in water and then boiling. In this way a large quantity of vegetable debris is taken up with the rubber and the quality is thereby impaired. . . . The discovery of these remarkable rubber plants shows how far we still are from knowing the full extent of the sources whence the valuable product may be obtained. It is possible that these new plants may be available for cultivation, and give returns earlier than other rubber plants. They could evidently be easily propagated by means of pieces of the rhizomes, and

although it would be necessary to destroy many of the plants to obtain the rubber, there is a probability that numerous pieces of the rhizomes could be left in the ground to carry on the cultivation.

The native habitat of these plants is in certain wide stretches of country in interior Africa, not covered with such luxuriant forests as Sir Henry Stanley, for instance, has described on the upper Congo, and under a much less humid climate. Herr Baum wrote that the "root rubber" district in the Kunene country was so devoid



LANDOLPHIA THOLLONII.

From *Industrie et Commerce du Caoutchouc*.



CARPODINUS LANCEOLATUS.

From H. de Witte's *Les Plantes Industrielles*.

\* Reality versus Romance in South Central Africa. By James Johns, New York: 1892. P. 127.

† Special Consular Reports. India-Rubber. Washington: 1892. P. 435.

‡ Actual Africa (or the Coming Continent). New York: 1892. P. 127.

§ *De l'Économie Sociale*, IV, 1892, pp. 127-128.

\* *Carter Lectures on the Plants Yielding Commercial India Rubber*, London: 1893. P. 14.



of water that the natives going thither to work had to carry water with them, returning when the supply was exhausted. Herr Schlechter states that the plants grow near Stanley Pool on such sandy—and therefore unfertile—soil as nowhere exists in Kamerun. It would appear, therefore, that these plants are adapted to regions not suited to the growth of *Castilloa* or *Hevea* species, and the planting of them thus far in Africa has been done on the same estates with the Ceará rubber (*Manihot Glaziovii*).

The latest business reports of several Belgian trading companies holding concessions in the Congo Free State allude to the rubber planting done by them. The company of the Plantations de la Lukulu report having planted 6000 *Manihot* trees and 8000 *lianes* (creepers), with 50,000 of the former and 12,000 of the latter still in nurseries. The Cie. Sucrière Européenne et Coloniale report planting 22,171 *lianes* and 748 *Manihot* trees, besides other species. The Plantations de La Luki had planted 16,584 *lianes* and specimens of nine different rubber trees, and had several thousand *Manihot* plants in nurseries. As to the *lianes* planted, on account of the local names being used, it is not clear what is the species. The first named company mention planting "malumbo," which, by reference to Hallier† would indicate some variety of *Landolphia*. The other two companies, however, report the planting of "lombo,"

† Ueber Kautschukarten und Andere Apocynen. Hamburg 1891.

which suggests the *Clitandra*, a genus of "root rubber" plants. The companies referred to are operating in the Mayombe country, on the lower Congo—immediately north of the district in Angola previously referred to.

It may be noted that all of the species of *Landolphia* are not of the giant creeper class, but some are included among the plants producing "Caoutchouc des herbes," or "root rubber." Such a plant is shown in the illustration, accompanying this article, of *Landolphia Thollonii*. The other illustration relates to *Carpodinus lanceolatus*. By the way, in the present confused state of the nomenclature of African rubber yielding species, the same plant is referred to as *Carpodinus* by one writer and *Clitandra* by another, and possibly as *Landolphia* by a third. Herr Hallier, in his monograph on the *Apocynaceæ*, after a comparison of all the data accessible, recognizes 21 established species of *Carpodinus*, 15 of *Clitandra*, and 20 of *Landolphia*. It need occasion no surprise, therefore, if different observers, under different conditions, should apply different designations to the same plant.

It is plain that with the extensive production in the districts alluded to in this paper, the total exhaustion of "root rubber"—without replanting—is inevitable. In this connection the decline which has occurred already in the exports from Benguela is significant, the figures showing only 1,034,605 pounds for 1902, against 4,942,148 in 1898.

## RUBBER GOODS MANUFACTURING CO.

THE fourth annual meeting of the stockholders of the Rubber Goods Manufacturing Co., incorporated under the laws of New Jersey, was held on April 9, at the registered offices of the company in that state, No. 60 Grand street, Jersey City. The annual report of the president, Alden S. Swan, presented in printed form and read at the meeting, follows in full:

It is with great pleasure that I report the results of the business of your company during the past year and as near as possible to March 31. They have proven the most satisfactory in the history of the company.

One year ago this corporation was owing a large amount of bills and accounts payable amounting to about \$1,100,000. This has all been liquidated and the company is entirely free from debt. By the auditor's report annexed, you will find that there has been charged off for maintenance, repairs, and depreciation the total of \$685,830.28. This is considerably more than the three preceding years combined.

Our allied companies show an increase in business up to the time of the Chicago strike, which lasted about three months. This interfered with our sales. Nevertheless, the total results are very satisfactory and compare favorably with previous years. Mr. Charles H. Dale has assumed the presidency and management of the companies doing a mechanical

business, and Mr. Lewis D. Parker also president and manager of those companies manufacturing tires, and the sales for the three months ending March 31, 1903, are in excess of the corresponding period of last year.

The financial statement is accompanied by a certificate from the company's auditors, Messrs. Bragg & Marin, chartered accountants, to the effect "that the various inventories of the constituent companies have been taken upon a proper and conservative basis. That the bills and accounts receivable have, in every instance, been taken at a valuation which insures that at least the amount at which they are taken will be realized in the due course of business."

### BALANCE SHEET.

[In the report as presented, all statements referred only to the last business year. But for convenience of comparison, the figures for the previous three years are here included, as shown in the respective annual reports. For a fuller understanding of the earlier figures, reference is made to THE INDIA RUBBER WORLD of May 1, 1902, page 1.]

	ASSETS.			
	Mar. 31, 1903.	Dec. 31, 1901.	Feb. 1, 1901.	Feb. 10, 1900.
Cash.....	\$ 50,010.30	\$ 74,323.07	\$425,740.42	\$318,246.72
Mortgage notes (for property sold).....	31,000.00	15,000.00	.....	.....
Accounts and bills receivable.....	205,537.13	876,856.83	45,585.19	705,589.51
Treasury stock at cost.....	.....	292,443.00	.....	.....
Plants owned.....\$120,000.00	.....	.....	.....	.....
Furniture owned.....1,026.80	121,026.80	110,856.05	.....	.....
Net earnings of properties less amount received to date.....	.....	.....	1,271,783.77	557,297.04
Investments, Stocks of allied companies.....	24,808,279.69	24,928,646.83	25,141,149.09	22,129,732.28
Total.....	\$25,222,462.98	\$26,298,125.78	\$26,884,264.47	\$23,770,865.55
	LIABILITIES.			
	Mar. 31, 1903.	Dec. 31, 1901.	Feb. 1, 1901.	Feb. 1, 1900.
Bills payable (for money borrowed).....	\$ .....	\$ 450,000.00	\$ .....	\$ .....
Accounts payable, to allied companies..	.....	597,326.42	.....	.....
Accounts payable, to others.....	.....	53,657.44	.....	.....
Deposits by companies.....	.....	.....	405,317.33	.....
Preferred stock.....	8,051,400.00	8,051,400.00	8,051,400.00	7,621,300.00
Common stock.....	16,941,700.00	16,941,700.00	16,941,700.00	15,134,000.00
Total.....	\$24,993,100.00	\$26,094,083.86	\$25,398,417.33	\$22,755,900.00
SURPLUS.....	\$221,362.98	\$204,041.92	\$1,485,847.14	\$1,014,965.55

## INCOMES AND DISBURSEMENTS.

FIFTEEN MONTHS ENDING MARCH 31, 1903.

Balance brought over from 1901.....	\$ 201,041.92
Income from dividends declared by allied companies for 15 months.....	1,570,402.64
<b>Total.....</b>	<b>\$1,774,444.56</b>
Interest Account—Excess of payments over receipts for 15 months.....	\$ 47,482.77
Expenses paid for 15 months.....	142,674.95
Charged off, loss on properties, contracts, guarantees, and for depreciation.....	650,426.36
<b>Total expenses, etc.....</b>	<b>840,584.08</b>
<b>Net income.....</b>	<b>\$ 933,859.48</b>
Five Dividends paid to March 31, 1903, Preferred.....	704,497.50
<b>Balance of Income over Expenses and Dividends paid... \$ 229,362.98</b>	

## EARNINGS OF CONSTITUENT COMPANIES.

Net Unapplied Earnings, as per previous report.....	\$661,317.58
To which add losses taken over and charged off by the Home Office.....	59,865.12
<b>Net Earnings of the Companies for the year 1902.....</b>	<b>\$2,252,954.45</b>
Charged off:	
For Maintenance and Repair.....	\$149,576.65
For Depreciation.....	536,253.63
	685,830.28
<b>From the above there has been set aside for Sinking Fund:</b>	<b>\$1,567,124.17</b>
For Bonds.....	\$ 50,209.24
For Additions to Plant.....	67,165.51
	117,374.75
<b>Leaving a Balance of.....</b>	<b>1,449,749.42</b>
<b>Making a Total of.....</b>	<b>\$2,170,932.12</b>
Out of which Dividends have been declared for the period of 15 months, ending March 31, 1903.....	1,678,723.64
<b>Net Unapplied Earnings, exclusive of operations of allied companies for the 3 months ending March 31, 1903.....</b>	<b>\$ 492,208.48</b>
Less amount owned by Stockholders other than the Rubber Goods Mfg. Co.....	22,606.22
<b>Net Unapplied Earnings belonging to the Rubber Goods Mfg. Co.....</b>	<b>\$ 469,602.26</b>
Of the above Dividends.....	\$1,678,723.64
There was paid to Stockholders other than the Rubber Goods Mfg. Co.....	108,321.00
<b>Balance paid to Rubber Goods Mfg. Co.....</b>	<b>\$1,570,402.64</b>

## THE NEW DIRECTORATE.

THE annual election for directors resulted in the choice of the following, the first five named being re-elected:

MIDDLETON S. BURRILL, No. 49 Wall street, New York.  
Of Zabriskie, Burrill & Murray, lawyers.  
Director United States Rubber Co.

HENRY STEERS, No. 147 Avenue D, New York.  
President Eleventh Ward Bank.  
Director Leather Manufacturers' National Bank.  
Director Dubuque and Sioux City Railroad.  
Director New York and Boston Dvewood Co.

EDWARD LAUTERBACH, No. 22 William street, New York.  
Of Hoadly, Lauterbach & Johnson, lawyers.  
Vice president Manila Anchor Brewing Co.  
Director Safety Car Heating and Lighting Co.  
Director Third Avenue Railroad Co.

ARTHUR L. KELLY, Providence, Rhode Island.  
President Mechanical Fabric Co.

HENRY R. WILKENING, No. 30 Broad street, New York.  
Clerk of Talbot J. Taylor & Co.  
Director Mechanical Rubber Co.  
Director New York Belting and Packing Co., Limited.

TALBOT J. TAYLOR, No. 30 Wall street, New York.  
Of Talbot J. Taylor & Co., bankers.  
Vice president Mechanical Rubber Co.  
Vice president New York Belting and Packing Co., Limited.  
Director Goodson Graphotype Co.

The figures given in the preceding column are compared below with the corresponding details in the former three annual reports of the company:

## RUBBER GOODS MANUFACTURING.

Income from dividends declared by constituent companies:

1899.....	\$ 441,624.83
1900.....	1,301,609.73
1901.....	1,362,824.00
1902 (to March 31, 1903).....	1,570,402.64

Interest account:

1899—Excess of receipts.....	\$37,880.11
1900—Excess of receipts.....	25,561.86
1901—Excess of payments.....	22,556.81
1902 (15 mos.)—Excess of payments.....	47,482.77

## EARNINGS OF CONSTITUENT COMPANIES.

* Gross earnings, 1899.....	\$1,652,901.09
Do 1900.....	2,053,049.75
Do 1901.....	1,898,964.50
Do 1902.....	2,103,377.80
<b>\$7,738,293.14</b>	
Charged for depreciation of plants.....	
1899.....	\$ 25,842.85
1900.....	198,921.78
1901.....	201,910.78
1902.....	536,253.63
<b>\$962,929.04</b>	
† Charged off for sinking fund:	
1899.....	\$45,449.05
1900.....	50,737.99
1901.....	50,467.99
1902.....	50,209.24
<b>190,864.27</b>	
<b>\$1,159,793.30</b>	
<b>Net earnings for four years.....</b>	<b>\$6,578,499.84</b>
From which there has been appropriated for additions to plants.....	793,166.28

Leaving a balance of.....	\$5,785,333.56
Out of which dividends have been declared:	
1899.....	\$ 769,624.83
1900.....	1,434,603.73
1901.....	1,469,948.00
1902 (to March 31, 1903).....	1,678,723.64
<b>5,352,990.20</b>	

Net unapplied earnings.....	\$432,343.36
To which add losses taken over and charged off by the Home Office.....	59,865.12
<b>Net unapplied earnings.....</b>	<b>\$492,208.48</b>
Less amount owned by stockholders other than the Rubber Goods Mfg. Co.....	22,606.22

Net unapplied earnings belonging to the Rubber Goods Mfg. Co.....	\$469,602.26
---	--------------

[\* After deducting cost of repairs and maintenance of plants. † For bonds of New York Belting and Packing Co., Limited, and Mechanical Rubber Co.]

In the current report the total sales by the allied companies are reported at \$13,364,090 for 1900; \$14,348,048 for 1901; and \$13,999,329 for 1902.

JAMES B. TAYLOR, No. 30 Wall street, New York.

Of Talbot J. Taylor & Co., bankers.  
Director Mechanical Rubber Co.  
Director New York Belting and Packing Co., Limited.  
Director Goodson Graphotype Co.  
Director Jacques Cartier Waterpower Co.  
Director Robins Conveyor Belt Co.

HARRY KEENE, No. 150 Broadway, New York.

Director Mechanical Rubber Co.  
Director New York Belting and Packing Co., Limited.  
Vice president Patent Title and Guarantee Co.

CHARLES H. DALE, No. 16 Murray street, New York.

President Peerless Rubber Manufacturing Co.  
President Mechanical Rubber Co.  
President New York Belting and Packing Co., Limited.  
President Fabric Fire Hose Co.  
President Sawyer Belting Co.  
Director Stoughton Rubber Co.

LEWIS D. PARKER, Hartford, Connecticut.

President Hartford Rubber Works Co.  
President Morgan & Wright.  
President India Rubber Co.  
President Indianapolis Rubber Co.

FRANK W. EDDY, Detroit, Michigan.

Head of H. D. Edwards & Co., the largest jobbers of mechanical rubber goods in the United States, selling the products of the Peerless Rubber Manufacturing Co. for many years and for many years previously of the New York Belting and Packing Co.



ERNEST HOPKINSON, No. 27 William street, New York.

Director of the Mechanical Rubber Co.

CHARLES A. HUNTER, New Durham, New Jersey.

Assistant to the President of the New York Belting and Packing Co.

President of the New York Belting and Packing Co.

President of the New York Belting and Packing Co.

President of the New York Belting and Packing Co.

President of the New York Belting and Packing Co.

President of the New York Belting and Packing Co.

President of the New York Belting and Packing Co.

President of the New York Belting and Packing Co.

President of the New York Belting and Packing Co.

WILLIAM T. COLE, No. 68 Murray street, New York.

Manager and director Fabric Fire Hose Co.

H. CARROLL WINCHESTER, No. 21 Park Row, New York.

The ten directors retiring were Alden S. Swan, William A. Towner, Albah Trowbridge, W. R. K. Taylor, Arthur Y. Whitman, J. Archibald Murray, H. W. Turnbull, Eugene Underhill, John B. Morris, and John Henry Hammond. Mr. Keene, who now enters the board, is a brother of James R. Keene, whose name has figured more prominently in the financial world, but the new director has won a reputation of his own for ability in the financial management of corporation affairs. Mr. Hopkinson, another new director, is a patent attorney of recognized ability, and particularly as an expert in tire and automobile patent litigation.

At a meeting of the directors on April 14 the following were elected officers of the company:

*President and Chairman Executive Committee*—CHARLES H. DALE

*First Vice President*—TALBOT J. TAYLOR.

*Second Vice President*—ERNEST HOPKINSON.

*Treasurer*—JAMES B. TAYLOR.

*Secretary*—HARRY KEENE.

The general offices of the Rubber Goods Manufacturing Co., from May 1, will be located in the Postal Telegraph building, No. 253 Broadway, thus being in a more convenient position as regards the offices and stores in New York of the constituent companies.

The boards of the Mechanical Rubber Co. and the New York Belting and Packing Co. are now identical, consisting of Charles H. Dale (president), Talbot J. Taylor (vice president), Harry Keene, Charles A. Hunter, and Henry R. Wilkening. The secretary and treasurer of both companies is J. W. McCoomb, formerly head accountant of the New York Belting and Packing Co. Mr. McCoomb is also treasurer of the Fabric Fire Hose Co.

### LAYING THE COMMERCIAL PACIFIC CABLE.

THE cable steamers *Anglia* and *Colonia*, owned by the Telegraph Construction and Maintenance Co., Limited, sailed from London on April 8 to lay the remaining sections of the Commercial Pacific cable, which will connect Honolulu with the Philippine Islands. The laying of the section between San Francisco and Honolulu—2413 miles in length, and made by the India Rubber, Gutta Percha, and Telegraph Works Co., Limited—was completed at the western end on January 1, 1903, and has since been in operation. The contract for the cable now to be laid was signed by the Telegraph Construction and Maintenance Co. and Mr. John W. Mackay, as president of the Commercial Pacific Cable Co. in July, 1902, a day or two before Mr. Mackay's death. The following are the distances (in nautical miles) covered by the cable route, though the length of cable is greater, to allow for slack in laying:

San Francisco to Honolulu.....	2,100
Honolulu to Midway Islands.....	1,160
Midway Islands to Guam.....	2,280
Guam to Manila, via San Bernardino Straits.....	1,372

Total..... 6,912

It is expected that the cable will be laid to Manila by July 4, after which one more section will remain to be put down, to connect Manila with China, in accordance with the Commercial Pacific Cable Co.'s contract with the United States.

The laying of the new cable will be begun at Manila—some time during this month, it is hoped—the steamer proceeding thence to Guam. The next station will be on Sand island, one of the Midway group. This is a barren spot, about  $\frac{1}{2}$  mile wide and  $\frac{3}{4}$  mile long, on which no living thing has ever been found. The cable company have sent there a staff of fifteen men, as the beginning of a colony, who will have to be supplied with food and drinking water from a distance. It is intended to convey a quantity of soil there, and ultimately to make Sand island one of the most beautiful spots in the Southern Pacific. The island will be fortified by the United States navy department. The final length of cable will be laid from this point to Honolulu.

The United States government has consented to the landing on the island of Guam of the projected cable connecting the Dutch and German possessions in the Pacific, and thence to the existing cable systems of the Far East. With these connections, added to the Commercial cable, naval officers expect that the little island will ultimately become an important port of call. It looks as if there will not long be any remote islands in the Pacific.

### NEW TRADE PUBLICATIONS.

THE NEW YORK BELTING AND PACKING CO., LIMITED, have issued a new illustrated descriptive and priced catalogue of Mechanical Rubber Goods, which is the best of the many good catalogues which have come from this long established firm. Beginning with some account of India-rubber and its sources, the book contains information of general interest regarding the leading applications of rubber for mechanical purposes—machinery belting, steam hose, air brake hose, suction hose, fire hose, packings in many forms, tubing, rubber covered rolls, matting, tiling, and a long list of articles embraced under the heading of "mold work." The illustrations are particularly good, the arrangement of the matter is convenient, and the book concludes with a serviceable index. [ $5\frac{1}{2}'' \times 8\frac{1}{2}''$ . 89 pages.]

The same company issue a collection of prints, illustrating various applications of their Interlocking Rubber Tiling—for corridors of office buildings, steamships, banks, libraries, church aisles, kitchen floors, and so on—for each of which rubber possesses some particular advantages as a flooring material. The plates, eighteen in number, are printed in colors, indicating that the rubber tiling can be made attractive as well as serviceable. The number of classes of rubber goods that lend themselves to attractive advertising is constantly increasing. [ $9'' \times 6''$ .]

THE DERMATINE CO., LIMITED (95 Neate street, London, S. E.) issue a 1903 edition of their Price List. In addition to cataloguing a very large number of applications of Dermatine, it gives a very full account of the properties of this material, and also a chapter on the sources and nature of India-rubber and Gutta-percha, as a substitute for which Dermatine is intended to be used. The book contains a good portrait of Mr. John Cooper, the managing director, who has been connected with the company for fourteen years, and the good arrangement of the publication recalls the former journalistic experience of this gentleman. [ $6'' \times 9\frac{3}{4}''$ . 50 pages.]

CONSOLIDATED RUBBER TIRE CO. (New York) issue a booklet, rendered especially attractive by color printing, in which the Kelly-Springfield solid rubber vehicle tires are tersely but clearly described. Among other things, the book contains a compilation of the taking advertisements of this company that have appeared for some time past in the high class magazines, [ $3\frac{1}{2}'' \times 6\frac{1}{2}''$ . 16 pages.]

## AUTOMATIC MEASURING OF RUBBER COATED FABRICS.

THE automatic measuring of fabrics of all sorts, and incidentally for use in rubber factories, has been for some years a fruitful field of invention. The patents on measuring devices have averaged nearly one a month for the past five years, and apparently the end is not yet. It

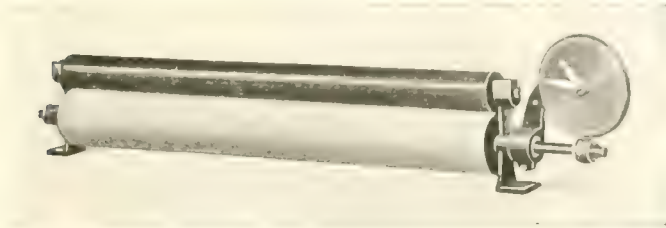


FIG. 1.

may seem invidious in such a multiplicity to single out one line for representation here, but reasons for such a choice will appear before we are through.

For some years the Curtis & Marble Machine Co. (Worcester, Massachusetts) have been giving attention to automatic measurers. In its simplest form the device consists of a measuring roll, either one-half yard or one yard in circumference, which by a worm and tooth device turns a dial attached to its support. A nip-roll prevents the cloth from slipping on the measuring roll. Figure 1 shows such a device as arranged for attachment to the frames or top of a machine by flat feet. In this case the nip-roll is of wood. Another form, shown in Figure 2, works in similar fashion, but has an iron nip-roll, and is arranged for attachment to upright posts. A third form, available when the nip-roll is for any reason objectionable, is shown in Figure 3. This device is especially used in woolen mills, where the goods to be measured are drawn through by hand. The measurer in this case is attached either to hangers or to posts. This form can be used not only where



FIG. 2.

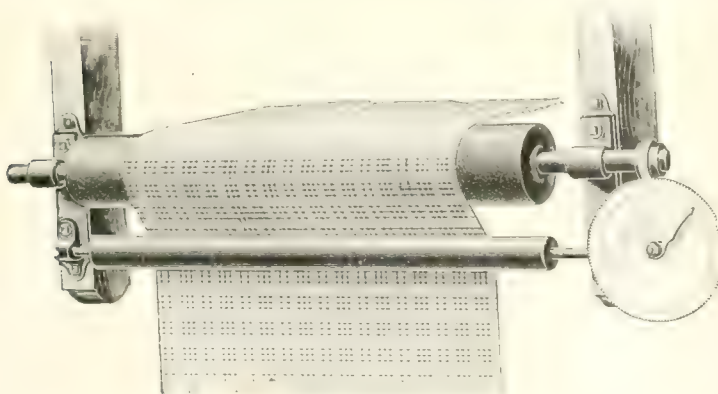


FIG. 3.

the goods are drawn through by hand, but also where power or a distant machine furnishes the propelling force.

All these measures are made in a great variety of form, as to

the point at which the dial is placed or the part of a machine where the device is attached. But all have the dials nicke plated, either single, measuring 60, 75, or 100 yards, or double, measuring 2600 or 5100 yards. A simple push is all that is necessary to set the pointer at zero at the end of each roll. A clock dial measuring 1000 yards is also furnished where desired.

The data needed for the making of such a roll are as follows: Length of roll, circumference ( $\frac{1}{2}$  yard or yard), number of yards to be registered, whether the dial is to be placed at the right or left end of the roll and above or below the shaft, whether the top of the roll turns toward or from a person facing the dial. Dials and worms are also obtainable to fit measuring rolls by giving in addition the size of the shaft to which the worm is to be fitted.

It sometimes happens that the construction or situation of a machine makes any such arrangement of the dial impracticable. In that case a pulley arrangement is available, with small belts to connect the dial in almost any convenient position. When absolute accuracy is required, an adjustable device can be obtained in which the variable diameter of an expansion pulley makes accuracy possible. Figure 4 shows the way in which such a device is attached to a calender rolling machine. This device is used in many factories where goods are sold by the piece without remeasuring.

Sometimes it is desirable to measure above 5000 yards at once. To meet this demand a counting register (Figure 5) is attachable to measuring rolls. This register serves for measurements up to 100,000 yards.

Elastic fabrics are difficult to measure except by special machines that are fitted with adjustable tension, two forms of which are shown in Figures 6 and 7. In the simpler form shown in Figure 6, the tension is regulated by friction rods. Guide collars keep the ends of the rolls even, and the machine is adjusted to wind upon boards from four to nine inches wide

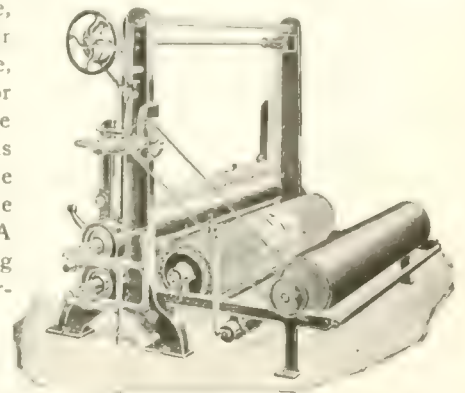


FIG. 4.

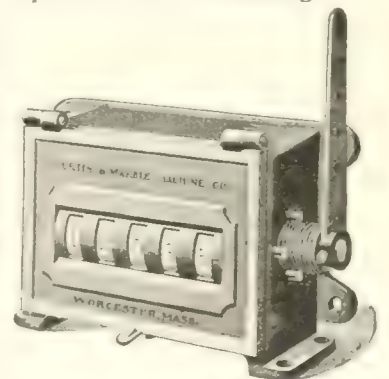


FIG. 5.



upon square bars, round rods or steel plates, which may be withdrawn when the roll is finished. The driving pulleys are eight inches in diameter, with a 2-inch face, and can be run

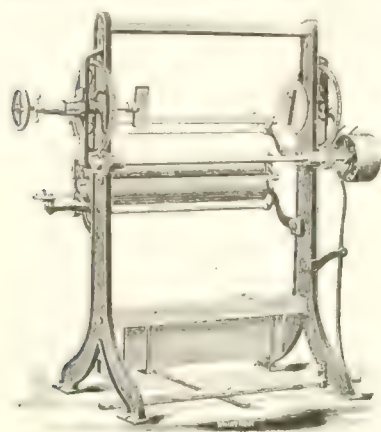


FIG. 6.

at about 250 revolutions a minute, if desired. The register of measurement is on a dial set horizontally at the side of the machine and operated by a worm on the shaft of the measuring roll. The standard sizes are two, for  $\frac{3}{4}$  and  $\frac{1}{4}$  goods. The former will take fabrics up to 27 inches in width, while the other serves from that width up to 36 inches.

The more elaborate machine shown in Figure 7 is needed for winding and measuring fine and light fabrics. The tension arrangement is similar to that of the other machine, and the measuring is done substantially in the same way. A hand lever, reinforced by a weight, holds the jaws in place and automatically adjusts them to any slight variations in the length of the boards. Jaws are obtainable fitted for cardboards, paper tubes and all other devices in actual use. Machines of this type are built up to a width of 72 inches.

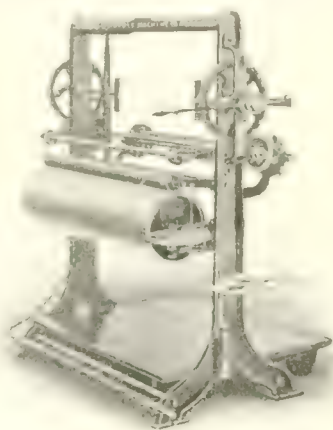


FIG. 7.

The machines are so constructed that a platform containing the cloth to be measured and wound can be rolled underneath without preventing the operation of the treadle by which work is started and stopped. An unrolling frame, with a large apron is used in some cases where the fabric to be measured comes in large rolls. In that way the tension arrangement, of the machine has entire control of the feeding.

#### TO MAKE RUBBER SHOES IN MUNICH.

THE Aktiengesellschaft Metzeler & Co. (Munich) have recently taken up the manufacture of rubber boots and shoes on a large scale. The product has been thoroughly tested in their branch stores, as to fit and quality, during the past two years. The objective point, on entering into the shoe manufacture, was to produce an article equal to the best imported brands. The large consumption of foreign made shoes is proof that a demand for German made goods of good quality exists in the market. The shoes made by Metzeler & Co. are cheaper than those of Russian manufacture, and higher priced than the other German manufactures. The firm will certainly be supported by the dealers in its endeavor to produce, at fair prices, shoes that can compete in every respect with foreign made goods.—*Gummi-Zeitung*.—The Metzeler firm now make rubber technical goods and asbestos goods.

#### "FICUS ELASTICA" AS A HOUSE PLANT.

THE story of the Texas man who tried to sell to a rubber manufacturer a rubber plant which, on inquiry, proved to be located in the southwest corner of his parlor, has become a classic in the rubber trade. Nor was he alone in his belief that the ornamental plants that have become so common in houses have a commercial value. One often hears the owners of such plants speculating on the amount of rubber that could be secured by cutting into them. No doubt the supposition is common that somewhere in the world little ten-foot shrubs are cut down and by a more or less mysterious process turned into rubber. Or, on the other hand, it may be supposed that the plant is named not because it produces rubber, but because its leaves are elastic and rubbery in appearance.

Such ideas make rubber men smile, but even those who know most about rubber manufacturing and who can grade crude rubber with the greatest accuracy, have somewhat hazy ideas about our familiar friend, the house rubber plant. One of the leading rubber importers of the United States is willing to wager a good round sum that the common rubber plant is not *Ficus elastica* but *Ficus australis*. An investigation has been undertaken at various times and with various results, paragraphs having appeared stating that the plant is *Ficus elastica*, and that it is not.

The only way to settle such a matter is to take it to the supreme court and secure a definite statement of the characteristics which identify the species to botanists. A visit to the botanical garden of Harvard University and consultation there of such works as Bailey's "Encyclopedia of Horticulture," the "Index Kewensis," and Curtis's *Botanical Magazine* gives the following results:

*Ficus australis* is a name not now recognized by botanists, the correct name of that species being *Ficus Rubiginosa*. The species is also called *Ficus ferruginea*. The tree is a native of Queensland, but the name *australis* means "southern," and not "Australian." If the name had been intended to indicate its Australian habitat it would have been *Australiensis*, or perhaps *Australiae*. *Rubiginosa* means "reddish" and *ferruginea*, "rusty." Both names refer to the reddish down that covers the under side of the leaves when young and that can be seen on the nerves of even the oldest leaves. The leaves of *Ficus rubiginosa* are never much more than four inches long and are marked by veins—not more than eight or ten pairs—which start nearly at right angles with the midrib, but recurve toward the base and end before reaching the margin. This plant is somewhat cultivated in conservatories, having been introduced to England by Sir Joseph Banks in 1789.

*Ficus elastica* has larger leaves than its cousin, glossy green all over on both sides. The leaves sometimes grow to the length of a foot. They are marked by many veins (fifty pairs or so) which run almost straight from midrib all the way to the margin, at right angles to the midrib. The leaves taper at the stem and have a sharp point at the tip, while those of *Ficus rubiginosa* have a rounded bottom and a blunt or even slightly indented tip. There is a variety of *Ficus elastica* (var. *variegata*) which has white or creamy edges. It is very beautiful, but is less popular than the standard variety because of its susceptibility to attack by parasites.

From what is written above it is evident that the rubber plant of our houses is the real thing, *Ficus elastica*—the rubber plant of India—modified by transference to the temperate zone. Here it does not grow to a height of 120 feet, and its aerial roots and stately habit must be left to the imagination; but botanically it is thoroughly characteristic.

## HOW RUBBER COMES FROM THE CONGO.

**W**HY does so much India-rubber come out of the Congo Free State? In 1891, after the trade had been in existence for several years, the output was only 179,696 pounds. In 1901, there arrived at Antwerp alone 11,918,303 pounds of Congo rubber—a sixty-six-fold increase in ten years. The Congo state has a large native population, but not of a character suited to the development of a great trade. The typical Congolese are small sized, not especially strong or enduring, lacking vigor, and wearing out prematurely under their natural privations and hardships; in many respects mentally like white children eight or ten years old, and with no inclination and little capacity to learn anything new; living in grass huts without furniture, going bareheaded and wearing only loin cloths, and with no thought of providing for to-morrow; the men interested chiefly in warlike pursuits, leaving to their plural wives—obtained by barter—the greater part of any work to be done in providing habitations or food.

Yet such as these—men, women, and children—ransack the dense forests of the Kasai and other great affluents of the Congo, to find here and there a *Landolphia* vine, which they destroy to obtain rubber, without any knowledge of what it is for or of its real value to the foreigner. Certainly no small inducement would lead hundreds of thousands of these simple forest folk to neglect their fighting and fishing and overcome their natural apathy to toil, to take up the strange business of gathering rubber and carrying it to market. Furniture and clothes and the like, such as are made for civilized people, would hardly appeal to them, money of any kind they could not use, and there is no evidence that these things are given to the natives in exchange for their rubber.

The Congo Free State in 1901 exported products (mostly rubber) valued at \$10,097,680, and imported merchandise of the value of \$4,620,410, the excess of exports being \$5,477,270. That is, the exported commodities were worth more than twice as much as the goods sent up river to pay for them. But the imports included railway and telegraph materials, steamers and other boats, iron buildings for military and trading stations, army and official supplies, and a lot of other things of no concern to the natives. For the latter there were cheap cloths, beads, trinkets, and the like—of trifling commercial value, compared with the millions of dollars worth of rubber gathered. If evidence is wanted of the low price of Congo rubber “in first hands,” it is suggested in the gossip of the Brussels bourse, where the shares of the Belgian companies operating on the Congo are traded in. In July, 1900, a financial paper there estimated that one of the companies had marketed, during the preceding six months, about 800 tons of rubber, at an average profit of 4 francs per kilogram [=35 cents per pound]. At any rate, the company referred to made a profit that year (mostly on rubber) of 487 per cent. and its shares were quoted on the bourse at sixty times their par value. There have been operations planned on the Congo with the idea of realizing a profit on rubber of 6 francs per kilogram [=52½ cents per pound]. Considering the high rate of transportation, it is clear that, with such profits for the traders, the

reward of the rubber collectors must be very meager. Then why do the natives gather so much of the stuff?

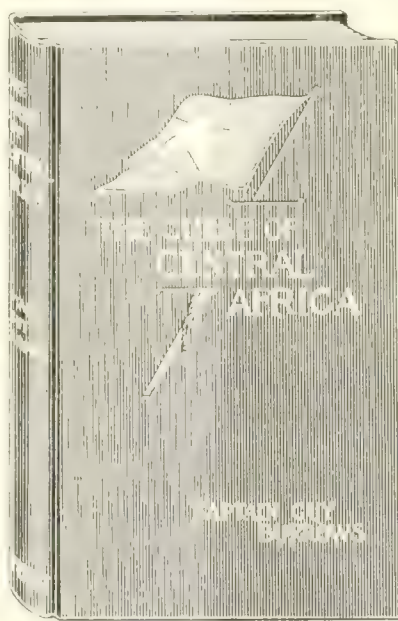
The above considerations are not derived from a certain book now attracting attention in Europe,\* but the book is noticed here because its authors assert so strongly and so circumstantially the truth of the rumors frequently heard in the past of atrocious cruelties practiced upon the natives by agents of the state and of the monopolistic concessionary companies. By way of introduction, the joint authors of this book, Captain Burrows and ex Lieutenant Canisius, point to their long service of the Congo state, and that of the latter subsequently with a trading company, both as a certificate of character and as proof of their opportunity for witnessing what they here describe. To sum up their testimony, the Congo natives do not “tumble over each other in their eagerness to bring in rubber,” but it is “a question between death by slaughter or starvation.”

Canisius, who spent several years in the service of a Belgian trading company, gives a detailed account of the collection of rubber at one trading post, under a system which he asserts prevails throughout the state, and from which the next paragraph is condensed:

There were in the vicinity of the post of N'Dobo a dozen villages, the people of which were obliged to bring in rubber every fifteen days. On these occasions the natives crowded into the post, each village in charge of an armed headman—from some other tribe—whose duty it was to insure the collection of the amount of rubber demanded. The natives carried small baskets, supplied by the post, and supposed to be full of rubber. They were grouped according to their villages, when the trading company's agent, who had their names in a book, called the natives forward, first by villages, then individually. Each man had attached to his neck by a cord a zinc tag bearing a number corresponding with one in the agent's book. As each basket was presented, the agent inspected the quantity of rubber it contained and paid the bearer, in pieces of brass wire about six inches long. The writer estimated that the rubber was paid for at the rate of less than a penny a

pound, though its value in Europe was 2 or 3 shillings. Those natives who had brought in quantities which the agent deemed insufficient were ordered to one side, seized by native “soldiers” attached to the post, thrown to the ground, and soundly flogged—25 or 50 or 100 lashes—with a heavy whip of hippopotamus hide. This proceeding was repeated until all the villages had been dealt with, when the natives started off for home, usually at a brisk trot, as if glad to escape with their lives. They, of course, carried with them their baskets and their brass wire, which they did not want but were forced to accept. The post manager had accumulated perhaps 1000 pounds of rubber, at a cost of about £4 [= \$20], including presents to the chiefs and headmen.

Thus was rubber “gathered” twice each month at N'Dobo. So many brass wires for so much rubber; so many lashes for what might be lacking—and all governed by the agent's judg-



THE SUPPRESSED CONGO BOOK.

\* The Curse of Central Africa. By Captain Guy Burrows, West Africa Incorporated. A Campaign Against Cannibalism. By Edgar Canisius. London: R. A. Everett & Co., Limited, 1902. 10s. 6d. Price 12s. 6d.



ment, without anything being weighed. At some posts, it is asserted, the agents have entrusted to the headmen merchandise to be exchanged for rubber, but the headmen usually appropriated the goods to their own use, taking the rubber without any payment whatever. Some such headmen had thus become able to own dozens of wives and many slaves.

According to the same author, the victims of this system have to search far and wide for the rubber vines. One having been found, the native first attacks it near the ground, and after no more sap can be gained there, he climbs into the supporting trees, often remaining on the lofty perches all day, and sometimes sleeping and falling to the ground, with a fatal result. Too frequent tapping soon kills the vines, when the natives of one district invade another, the people of which may be themselves hard pressed to find rubber, causing constant quarrels and worse disturbances. As a result of the enforced labor—every village being required to supply definite amounts of rubber—it is asserted that in many places the natives have ceased to grow any food, for the lack of time, but now live "like wild beasts in the forest, subsisting on roots, and ants and other insects."

But half of the horrors in this book are not even hinted at above—how refractory natives are tortured, mutilated, and even put to death, and whole villages destroyed, for no better reason than that their people have not brought in enough rubber. For this whole condition of affairs the authors of "The Curse of Central Africa" indict the Belgian government—the real power in the Congo Free State—under whose rule the best rubber districts are completely monopolized. "Neither in the *Domaine Privé*," says this book, "which includes nearly all the rubber producing regions not gifted away, for considerations, to the *concessionnaires*, nor in the territories handed over to the latter, can an independent trader buy a pound of rubber or an ounce of ivory, or sell a spoonful of beads or an ounce of brass wire. The state fixes the prices of the products which the natives are compelled, at the mouth of the Albin [rifle], to bring to its posts; and it is scarcely necessary to add that the price so fixed is absurdly near to nothing. The close relation of the state to the companies is shown in the fact that the former holds half the shares in many of the latter, sharing in the large profits. Besides, the natives must pay a head tax "in kind," which makes the government itself a large handler of rubber.\*

The statements in this book are stoutly denied in Belgium. Before it was printed in London steps were taken by certain persons mentioned in the manuscript to prevent their names from appearing in the book, and already libel suits against the authors and publishers are pending in the English courts. It may be, therefore, that the facts will thus be brought to light. Meanwhile the book has been withdrawn from the trade. As for the authors, they take pains to prove that they were not discharged by the Congo state, but served their full enlisted terms, and even entertained suggestions with regard to continuing in the service. It would have been better for their reputations as men, if, after such experiences as they report, they had resigned their offices. Their book would then have commanded more respect.

\* The Budget of the Congo Free State for 1901 includes an item of 12,145,000 francs for the taxes levied by the natives "in kind," most of which will be rubber.

OCTAVE J. A. COLLET writes to the *Journal d'Agriculture Tropicale* reporting the recent shipment from Borneo of 60,000 Gutta-percha plants, of which 20,000 were for Dr. Preuss, director of the German botanic garden at Victoria, in Kamerun, and the remainder for the Belgian companies "Abir," "Lomani," "Luki," and "Lukula" for planting in the Congo state.

## LITERATURE OF INDIA-RUBBER.

IN a previous mention of the Brussels journal, *Industrie et Commerce et du Gutta Percha*, it was referred to as the second of its class to appear in the French language, whereas it really was first to become public. This is a handsome appearing journal, published each month, and, in addition to practical articles on the industries indicated by its title, it contains much original matter of merit relating to the sources of the raw material, particularly in the countries in which Belgian and French capital is interested. The March issue treats of a new vulcanizing press, rubber reclaiming processes, the drying of washed rubber, and a technical description of an important *Landolphia* species, besides minor articles and a full review of the crude rubber market. Many of these articles are credited to other journals, but they appear here for the first time in a form available for those whose reading is confined to French.

No. 3 of *Le Moniteur du Caoutchouc* (Brussels) is devoted mainly to topics bearing upon raw Caoutchouc and its sources, of which the one which will appeal most to manufacturers is a table of shrinkages of Congo sorts, by the conductor of the journal, M. Van den Kerchhove. The first installment appears of an article on rubber collection on the Kasai river, in the Congo state.

### IN CURRENT PERIODICALS.

NOTE sur les Lianes du Laos. By Dr. C. Spire. = *Bulletin Économique*, Hanoi. V-12 (December, 1902.) Pp. 853-861.

La Culture des Plantes a Caoutchouc en Nouvelle Guinee. By W. Kolbe. [From *Der Tropenpflanzer*. VII-2] = *Revue des Cultures Coloniales*, Paris. XII-121 (March 20, 1903.) Pp. 176-179.

Ule's Expedition nach den Kautschuk Gebieten des Amazonstromes. By Ernst Ule. [Third installment; relates to *Hevea* species on the river Juruá] = *Notizblatt des Königl. Botanischen Gartens und Museums zu Berlin*. III-30 (March 15, 1903.) Pp. 224-237.

Rendement de l'*Hevea* sur le Rio Beni. By Paul Cibot. [Continued; details of yield from tapping in various quarters] = *Journal d'Agriculture Tropicale*, Paris. III-21 (March 31, 1903.) Pp. 67-70.

Le *Funtumia elastica* ou "Silk Rubber" du Lagos. By Émil De Wildeman. [Considerations favorable to its culture in West Africa.] = *Revue des Cultures Coloniales*, Paris. XII-122 (April 5, 1903.) Pp. 193-196.

*Landolphia Klainei* (Pierre). By Émil De Wildeman. [Description of an interesting rubber yielding species found in the Congo Free State.] = *Industrie et Commerce du Caoutchouc et la Gutta-percha*, Brussels. I-3, March, 1903. Pp. 57-60.

### OTHER PUBLICATIONS RECEIVED.

HAND BOOK OF THE FEDERATED MALAY STATES. Compiled by H. Conway Belfield, British Resident at Selangor. London: Edward Stanford, [1903.] [8vo. Pp. iv+170+plates and maps. Price, 2 shillings 6 pence.]

A VERY practical work, full of information for all classes likely to be interested in the progress of and the opportunities for work and investment in a region, the great development of which, under British rule, was referred to in this journal last month, in an article on rubber cultivation. Numerous references to India-rubber and Gutta-percha appear in the book. There are maps of the Federated States as a whole and of the states separately, and several good views from photographs.

A HANDBOOK OF PERU FOR INVESTORS AND IMMIGRANTS. WITH a Description of the Central Route (region of the Pichis.) [12mo. Pp. 54+plates and maps.]

THIS is a translation into English, from an official publication issued at Lima, by Señor F. A. Pezet, secretary of the Peruvian legation at Washington, where copies can be obtained on application. It treats in part of the rubber resources of Peru, with photographs of rubber extracting processes, and includes the regulations governing concessions of rubber lands.

## RECENT RUBBER PATENTS.

## THE UNITED STATES PATENT RECORD.

ISSUED MARCH 3, 1903.

- N**O. 721,722. Stopper [and nipple combined] for nursing bottles. William H. Morton, Portland, Maine.
- 721,813. Life preserver. Icilius W. Maccolini, Long Island, New York.
- 721,948. Doll [of elastic and inflatable material, with sound producing device]. William A. Gay, Terryville, Connecticut.
- 721,963. [Hollow rubber] pad for hernial belts. Florentin Matuchet, Paris, France.
- 721,985. Hose coupling. Absalom B. Wells, Washington, D. C.
- 722,013. Fountain pen. Robert A. Hamilton, Brooklyn, New York.
- 722,164. Fastening device for [solid rubber] vehicle tires. Frank P. Stone, Chicago, Illinois.

ISSUED MARCH 10, 1903.

- 722,337. Elastic tread horseshoe. Herbert D. Traveller, Chicago, Illinois.
- 722,339. Protecting band for pneumatic tires [inserted between air tube and outer cover]. John Wheeldon, Sheffield, England.
- 722,350. Teething nipple [consisting of an elastic bulb, elongated at one end]. Frank B. Anderson, Davenport, Iowa.
- 722,352. Weather strip. Leo A. Bartel, Sidney, Ohio.
- 722,376. Pneumatic tire. Joseph G. Moomy, Erie, Pennsylvania.
- 722,377. Pneumatic tire. Joseph G. Moomy, Erie, Pennsylvania.
- 722,459. Tire for vehicles [Made by applying to a mandrel in the form of a closed ring alternate layers of unvulcanized rubber and a suitable braided fabric, and vulcanizing the whole.] Oscar Schaefer, London, England.
- 722,596. Bottle stopper head [involving a rubber gasket]. George Limbach, New York city.
- 722,600. Pneumatic tire. Edwin Midgley, London, England.
- 722,612. Tire for wheels of road vehicles. Berne Nadall, Kingston-upon-Thames, England.

ISSUED MARCH 17, 1903.

- 722,819. Syringe. William M. Decker, Buffalo, New York.
- 722,822. Mechanism for manufacturing rubber shoes. Henry J. Doughty, Providence, Rhode Island, assignor to Atlantic Rubber Shoe Co., Trenton, New Jersey.
- 722,823. Foxing for rubber boots and shoes. Henry J. Doughty, Providence, Rhode Island.
- 722,944. Process of devulcanizing gums [by dissolving the same *in vacuo* in phenol and distilling the phenol]. Paul H. J. Chautard and Henri Kessler, Paris, France.
- 723,042. Valve for syringes, atomizers, etc. Silas Schwerin, Belleville, New Jersey, assignor to Hardman Rubber Co.
- 723,057. Method of manufacturing pneumatic tires. Uzziel P. Smith, Chicago, Illinois, assignor to Frank A. Seiberling, Akron, Ohio.
- 723,112. Fountain pen. Paul E. Wirt, Bloomsburg, Pennsylvania.
- 723,113. Fountain pen. Paul E. Wirt, Bloomsburg, Pennsylvania.

ISSUED MARCH 24, 1903.

- 723,292. Toy [of inflatable material, with sound producing device]. Herman Metzger, Chicago, Illinois.
- 723,299. Armor for pneumatic tires. Harry Parsons, London, England.
- 723,301. Seamless rubber glove. Jacob Pfeiffer, Akron, Ohio.
- 723,316. Tire fastener. George E. Rumrill, Carrollton, Illinois.
- 723,366. Vehicle tire [pneumatic, with metal protector]. William Clapp, Valparaiso, Indiana.
- 723,442. Foot pad [for horses]. William J. Conway, Chicago, Illinois.
- 723,606. Foot ball. William S. Jacobs, assignor to one half to William E. Waterman, both of Malden, Massachusetts.
- 723,726. Fountain pen. George W. Perks and Frederick C. Thacker, Birmingham, England.
- 723,735. Massage appliance [with cup shaped rubbers of elastic material]. Torsten Schillberg, Glasgow, Scotland.

ISSUED MARCH 31, 1903.

- 723,876. Rubber fabric for heels or the like. Michael A. Kennedy, Boston, Massachusetts.

- 723,938. Golf ball. Anson R. Spear, St. Paul, Minnesota.
- 723,945. Pneumatic tire. [A tire sheath with attaching beads and a rim adapted therefor.] Pardon W. Tillinghast, Cranston, Rhode Island.
- 724,122. Horseshoe. Thomas C. Octigan and William Peacock, Chicago, Illinois.
- 724,157. Tire detachable. Alva W. Blanchard, assignor to one half to William H. C. Leverich, both of New York city.
- 724,289. Hot water bag. John H. Holt, Washington, D. C.
- 724,295. Pneumatic tire cover. Lewis Johnstone, Prestwich, assignor to the Radax Pneumatic Tyre Co., Limited, Warrington, England.
- 724,324. Hose coupling [for fire hose]. Edward T. Parsons, Louisville, Kentucky.

[NOTE.—Printed copies of specifications of United States patents may be ordered from THE INDIA RUBBER WORLD offices at 15 cents each, postpaid.]

## THE BRITISH PATENT RECORD.

[\* Denotes Application from the United States.]

APPLICATIONS—1903.

- 1,793. T. Percival and J. Smith, Liverpool. Elastic tire and apparatus for attaching the same. Jan. 26.
- 1,799. E. A. Stretton, Birmingham. Pneumatic tire for motors and cycles. Jan. 26.
- 1,802. J. Lees, Manchester. Tire for motor cars. Jan. 26.
- 1,848. J. E. Spagoletti, London. Electrical insulators. Jan. 26.
- 1,882. W. G. Brett, Parkstone, Dorset. Tire for vehicles and cycles. Jan. 27.
- 1,914. Marie Manuel, Glasgow. Pneumatic tire for cycles and vehicles. Jan. 27.
- 1,951. J. D. Roots, York road, London. Rubber tire. Jan. 27.
- 1,970. A. J. Moseley, Southampton buildings, London. Tire for vehicles. Jan. 27.
- 2,022. S. J. Lilley and T. P. Bucton, Leicester. Method of construction of cushion and solid rubber tires. Jan. 28.
- 2,041. A. E. Moore and A. Darch, 55, Chancery lane, London. Resilient tire. Jan. 28.
- 2,049. A. B. Dexter, 15, Seething lane, London. Rubber cored golf ball. Jan. 28.
- 2,073. A. Prinzhorn, Finsbury, London. Pneumatic tire for motor. (Continental Caoutchouc- und Guttapercha-Compagnie, Hanover, Germany.) Jan. 28.
- 2,058. E. J. Cleburne, 55, Chancery lane, London. Pneumatic tire. Jan. 28.
- 2,129. H. Rudge and W. Cook, St. Helens. Pneumatic tire. Jan. 29.
- 2,165. C. H. Gray, 111, Hatton garden, London. Golf ball. Jan. 29.
- 2,181. E. Midgley, 173 Fleet street, London. Non slipping bands for pneumatic tires. Jan. 29.
- 2,313. A. Castle and W. E. Gray, 27, Chancery lane, London. Golf ball. Jan. 30.
- 2,345. J. Stungo, Glasgow. Method of securing rubber tires to wheels. Jan. 31.
- 2,351. H. Markus and E. T. Whitelow, Manchester. Improvement in the manufacture of insulating material for wires. Jan. 31.
- 2,383. E. Duerr, Southampton buildings, London. Elastic tire for vehicles. Jan. 31.
- 2,398. C. T. Kingzett, Southampton buildings, London. Method of making golf balls. Jan. 31.
- 2,409. H. Seddon, Manchester. Pneumatic tire. Feb. 2.
- 2,593. Rt. Hon. Hubert John, Earl Cairns, Lincoln's Inn Fields, London. Pneumatic tire. Feb. 3.
- \*2,603. H. J. Haddan, Strand, London. Self sealing pneumatic tire. (J. W. Blodgett, United States). Feb. 3.
- 2,618. P. E. Roberts, Manchester. Heel pad for boots. Feb. 4.
- 2,623. H. J. B. Readman and H. Readman, Glasgow. Attachment to rubber tires to prevent side slipping. Feb. 4.
- 2,634. E. C. Pope-Sadler, 63, Bishopsgate street, London. Tire tread to prevent side slipping. Feb. 4.
- 2,662. H. G. Hoyos, 81, High Holborn, London. Inflatable boot tree. Feb. 4.
- 2,663. J. Hall, Strand, London. Pneumatic tire. Feb. 4.
- 2,692. J. W. O. Walker, and the Dunlop Rubber Co., Limited, London. Improvements in gloves. Feb. 4.
- 2,695. O. D. Lucas, 39, Victoria street, London. Insulating material and substitute for ebonite. Feb. 4.



- 2,706. J. Hodgkinson, Manchester. Means for laying hose across thoroughfares without interrupting traffic. Feb. 5.
- 2,734. E. W. Wooders, Manchester. Rubber heels and soles for boots. Feb. 5.
- 2,760. G. Evans and J. Holmes, 55, Chancery lane, London. Pneumatic tire for boots and inflating valves therefor. Feb. 5.
- 2,766. T. Belvoir, 82, Mark lane, London. Elastic exercising apparatus. Feb. 5.
- 2,795. O. Betts, 111, Hatton garden, London. Pneumatic tire. Feb. 5.
- 2,804. K. Geiser and H. Kerhli, 40, Chancery lane, London. Tenacious elastic substance and method of producing the same. Feb. 5.
- 2,898. P. A. Martin and D. A. Martin, Birmingham. Elastic tire. Feb. 7.
- 2,899. P. A. Martin and D. A. Martin, Birmingham. Method of manufacturing elastic tires. Feb. 7.
- 2,939. C. H. Gray, 111, Hatton garden, London. Improvement in the vulcanization of rubber. Feb. 7.
- 2,989. W. Sumner, Birmingham. Inner tube for pneumatic tires. Feb. 9.
- 3,002. A. Cook, Quinton, near Birmingham. Pneumatic sealing device for pneumatic tires and air tubes. Feb. 9.
- 3,006. T. Stewart, Glasgow. Golf ball. Feb. 9.
- 3,089. E. B. Killen, Belfast. Solid rubber tire. Feb. 10.
- 3,176. L. E. Amedroz, Southampton buildings, London. Golf ball. Feb. 10.
- 3,230. J. H. Roger, Glasgow. Golf ball. Feb. 11.
- 3,254. C. A. Hutton, Mansion House Chambers, London. Means of preventing skidding of rubber tires and puncturing of pneumatic tires. Feb. 11.
- 3,255. W. M. Edwards, 82, Mark lane, London. Tire for vehicles. Feb. 11.
- 3,398. C. Challiner, Manchester. Pneumatic tire for motors. Feb. 13.
- 3,411. N. Hill and the Coventry Chain Co., Limited, Coventry. Wheel tire. Feb. 13.
- 3,452. C. H. Gray, 111, Hatton garden, London. Improvement in vulcanizing rubber. Feb. 13.
- 3,485. W. F. Reid, Lincoln's Inn fields, London [the inventor of "Velvrit"]. Material for a substitute for leather, rubber, etc. Feb. 13.
- 3,504. J. Henderson, Glasgow. Golf ball. Feb. 14.
- 3,639. O. Kimmel and H. Kimmel, London. Means for repairing pneumatic tires. Feb. 16.
- 3,664. A. J. W. Curry, Kimberley, South Africa. Pressing web patches on tire inner tubes. Feb. 16.
- 3,751. W. W. Pilkington and W. R. Ormandy, Liverpool. Improvements in weighting material for the manufacture of linoleum, rubber, etc. Feb. 17.
- 3,809. T. S. Forbes, Glasgow. Rubber tile and like flooring. Feb. 25.
- 3,907. W. G. Tarbet, Chiswick, London. Pneumatic tire. Feb. 25.
- 3,950. C. J. Watts, 33, Cannon street, London. Tire for motor cars and cycles. Feb. 19.
- 4,003. W. Swain and L. H. Swain, Keighly. Pneumatic tire. Feb. 20.
- 4,022. J. M. Benzie, Glasgow. Composition for stopping punctures in tires. Feb. 20.
- 4,135. M. Purser, Jr., Carlow, Ireland. Non skidding tread for pneumatic tires. Feb. 21.
- 4,182. K. Gray, 111, Hatton garden, London. Presses for the manufacture of golf balls. Feb. 21.

## PATENTS GRANTED.

[AS ENTERED IN THE OFFICIAL JOURNAL, FEBRUARY 1, 1903.]

- 20,253 (1901). Golf ball. C. H. Gray (of the India-Rubber, Gutta-Percha, and Telegraph Works Co., Limited), London.
- 20,293 (1901). Hoof pad. G. E. Heyl-Dia, Warrington.
- \*20,296 (1901). Golf ball [Gutta-percha core in celluloid shell; for billiard balls, in hard rubber shell]. E. Kempshall, Boston, United States.
- 20,311 (1901). Pneumatic tire [relates to weaving of the fabric lining of the cover]. F. Reddaway, Manchester.
- \*20,440 (1901). Horseshoe pad. C. P. Wilder, Chicago, United States.
- [AS ENTERED IN THE OFFICIAL JOURNAL, FEBRUARY 1, 1903.]
- 20,503 (1901). Pneumatic tire [with rim having steel rings to engage in grooves in the reinforced edges of the outer cover to prevent creeping]. C. Challiner, Manchester.
- 20,525 (1901). Engine packing. R. Forsyth, London.

- \*20,636 (1901). Pneumatic or solid tire [attached to the wheel by means of sectional plates which are held in position by transverse bolts]. C. A. Pettie and E. C. Pettie, Brooklyn, New York, United States.
- 20,742 (1901). Pneumatic tire [with chain attached to the cycle fork, to lie against the tread to remove tacks and the like]. H. Fleming, Paris, France.

[AS ENTERED IN THE OFFICIAL JOURNAL, FEBRUARY 1, 1903.]

- \*20,899 (1901). Solid rubber vehicle tire. W. H. St. John, Brooklyn, New York, United States.
- 20,939 (1901). Pneumatic tire [having embedded within the outer cover a strip of chain mail]. E. Midgley, London.
- 81,087 (1901). Solid rubber vehicle tire. G. C. Marks, London. (Consolidated Rubber Tire Co., Jersey City, New Jersey, United States.)

[AS ENTERED IN THE OFFICIAL JOURNAL, FEBRUARY 1, 1903.]

- 21,400 (1901). Pneumatic tire [with the outer cover provided with a continuous row of small metal pieces on the inside]. J. Wheelton, Sheffield.
- 21,508 (1901). Inhaler [designed also for use as a syringe, by the attachment of a rubber bulb]. T. Kautz, Bad Reichenall, Germany.
- 21,568 (1901). Heels and soles for boots. J. Morrison, Cheshire.
- 21,691 (1901). Solid rubber tire [provided with a backing formed by vulcanizing on layers of canvas wider than the tread part, whereby lateral ribs are formed on which rest wire hoops adapted to be sprung over the edges of the rim to hold the tire in channel]. A. MacMahon, New York, United States.
- 21,925 (1901). Pneumatic tire [having a secondary air tube within the ordinary tube, which can be inflated through a separate valve should the latter become punctured]. E. H. Barlow and A. F. Walby, London.
- 21,964 (1901). Pneumatic tire [relates to detachably connecting together the ends of the air tube]. A. Brown, Surrey.

## THE GERMAN PATENT RECORD.

## PATENTS GRANTED.—1903.

- 140,611 (Class 39b). Process for manufacturing elastic molds. Mrs. Heinrich Loewy, Berlin, and Phil. Penin Gummiwaaren-Fabrik Akt.-Ges., Leipsiz-Plagwitz. Feb. 25.
- 140,946 (Cl. 71a). Heel for shoe constructed to allow of interchangeable lifts. Johannes Klumpp, Strassburg, Alsace. March 11.
- 141,210 (Cl. 39a). Process for making rubber syringes. Schlesische Gummiwaaren-Fabriken, Gustav Eichler, Breslau. March 11.

## DESIGN PATENTS GRANTED [GEBRAUCHSMUSTER].

- 193,092 (Class 3b). Man's vest with woven rubber band extending from the watch-pocket to back-buckling strips. Georg. Goetz, Leipsiz-Neustadt. Feb. 25.
- 193,043 (Cl. 30d). Elastic abdominal support. Wilh. Julius Teufel, Stuttgart. Feb. 25.
- 193,399 (Cl. 30g). Teething ring provided with button for attaching rubber nipple. C. Brose, Christiania, Norway. Feb. 25.
- 193,356 (Cl. 63e). Automobile tires consisting of spiral steel band covered with rubber. G. E. Junius, Paris, France. Feb. 25.
- 193,823 (Cl. 63e). Compressed air rubber tires combined with one or more annular furrows or ridges. Edmund Troast, Hamburg. March 4.
- 194,366 (Cl. 21c). Insulating band of vulcanized rubber combined with a thin layer of non vulcanized rubber. Siemens & Halske Akt.-Ges., Berlin. March 11.
- 194,031 (Cl. 45i). Elastic insertion plates, diminishing wedge shaped from heel to toe, for horseshoes. Carl Zingelman, Berlin. March 11.
- 194,073 (Cl. 83a). Rubber covering for knob and bow of watches with protective cases. Alphonse Loyson, Strassburg. March 11.
- 194,438 (Cl. 154). Hand stamp, with an elastic insert containing air channels fixed between the handle and the type plate. Deutsche Verwerthungs-Gesellschaft. G. m. b. H., Berlin. March 18.
- 194,567 (Cl. 30d). Irrigators of soft rubber or rubber covered fabric in oval or rectangular tin boxes. Franz Neupert, Berlin. March 11.
- 194,845 (Cl. 30d). Combination of rubber cords and woolen threads woven into strips or bands for cold compresses, having provision for fastening attached to cloth. Mrs. H. S. Roesener, Calbe. March 18.
- 194,746 (Cl. 63e). Pneumatic tire with metallic shoe of sectional pieces radially fastened upon it. A. M. Levy, Moscow, Russia. March 18.

## APPLICATIONS.

- 16,196 (Class 70b). Penholder combined with an elastic core as a support for pen. Ernst Fischer, Vienna, Austria. Feb. 25.

WE MANUFACTURE  
**Everything in Rubber**

**MECHANICAL RUBBER GOODS**

Hose, Belting, Packing, Valves  
Gaskets, Mats, Matting, Etc.

**DRUGGISTS', SURGEONS' AND STATIONERS'  
RUBBER SUNDRIES**

**BICYCLE TIRES**

**SOLID RUBBER VEHICLE TIRES**

**CLINCHER AUTOMOBILE TIRES**

**HASKELL GOLF BALLS**



***The* B. F. GOODRICH COMPANY**

AKRON RUBBER WORKS

**AKRON, OHIO**

NEW YORK, 66-68 Reade St.

CHICAGO, 141 Lake St.

PHILADELPHIA, 922 Arch St.

BOSTON, 157 Summer St.

BUFFALO, 9 W. Huron St.

DETROIT, 80 E. Congress St.

DENVER, 1444 Curtis St.

SAN FRANCISCO, 392 Mission St.

LONDON, 7 Snow Hill, E. C.



# Interlocking Rubber Tiling.



As laid by us in the Dining Room of the Hotel Essex, Boston, Mass.

It is noiseless, non-slippery, waterproof, thoroughly sanitary and so durable as to last practically a life time without requiring repairs. It may be laid directly upon existing floor, whether of wood, cement, stone or iron, therefore saving the expense of constructing a concrete floor which is absolutely necessary in all other kinds of tiling.

A perfect floor for business offices, banking rooms, court rooms, vestibules, halls, billiard rooms, smoking rooms, cafes, libraries, churches, hospitals, hotels, bathrooms, kitchens, etc.

Samples, estimates and special designs furnished upon application.

SOLE MANUFACTURERS,  
**New York Belting and Packing Co., Ltd.**  
 25 PARK PLACE, NEW YORK.

BALTIMORE, 41 South Liberty Street. BOSTON, 232 Summer Street. PHILADELPHIA, 724 Chestnut Street. INDIANAPOLIS, 229 S. Meridian Street.  
 SAINT LOUIS, 411 N. 3d Street. CHICAGO, 150 Lake Street. SAN FRANCISCO, 509-511 Market Street.

*Mention The India Rubber World when you write.*

## ⇒ RUBBER BELTING ⇒

for Elevator, Thresher, Saw and Planing Mill Work.

*“Warranted 2XL,”*

*“Shield High Grade,”*

*“Cleveland Stitched,”*

*“Buckeye.”*

Good belting at low cost is the result of experience and up-to-date equipment—WE HAVE BOTH.

We also make a complete Line of Steam, Fire, Suction and Conducting Hose, Packings, and Molded Goods.

SEND FOR 120 PAGE CATALOGUE.

**THE MECHANICAL RUBBER CO.,**

. . . . CLEVELAND, OHIO.

## THE DOUGHTY RUBBER SHOE MACHINE.

UNDER date of March 17, 1903, there was issued by the United States patent office to Henry J. Doughty, a most interesting patent [No. 722,822] for a mechanism for the manufacture of rubber shoes, which patent was assigned to the Atlantic Rubber Shoe Co. (Trenton, New Jersey). To the few persons who have seen the Doughty machines it will be recognized as one of the basic patents under which the company is working, and for which application was filed back in 1901. There are eleven claims which describe, in brief, "a mold for making rubber shoes by interior pressure consisting of outer movable parts and an interior part forming a working support, provided with an air inlet and adapted to co-operate with the outer parts to compress the work and form an air tight joint," which is the first claim exactly as it was allowed.

The second claim describes the manner of securing the shoe in its expanded condition. The third covers the sole mold and the two side molds for forming the sides and upper of the shoe, and the work support in combination with means for moving the side molds in opposite directions to open the top of the molds and facilitate the insertion of the work. The fourth claim describes the combination with a four part mold, the abutments adjustably secured to the form and rods connecting the abutments and forming the sliding supports of the two sides of the mold together with a toggle jointed mechanism and hand lever whereby the mold may be opened or closed by one movement of the hand lever. In the fifth claim is described a combination with the work support, the sides of the mold and the sole mold, of chambered side blocks and chambered block for supporting the sole mold and of means for operating the side block and lifting the sole block. The sixth claim relates

to the molding of the work by its being placed between unyielding surfaces and an elastic air pressure, and the seventh to means whereby the margin of the shoe is clamped between rigid surfaces so that the air under pressure may not escape. The eighth claim covers the beveled ribs in the mechanism which while they close the side molds act at the same time to raise the sole mold.

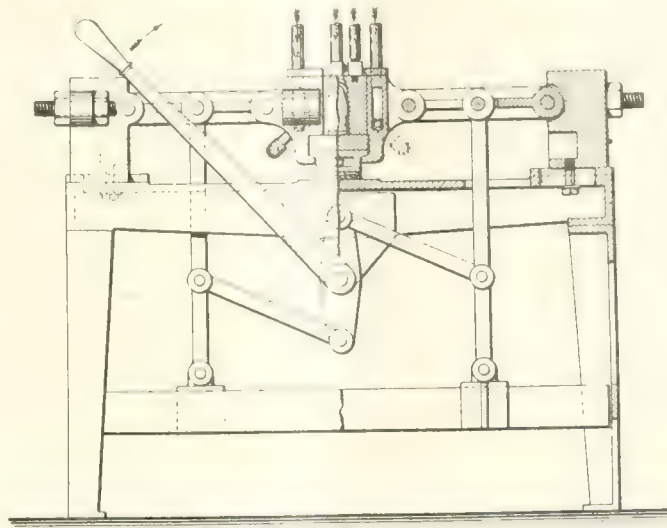
In claim number nine the inside part forming an air inlet and a margin to support the work is mentioned. Number ten treats the combination of the work support and certain surfaces whereby parts in the shoe may be pressed between the rigid part of the work support and the mold, while in number eleven the description is "a mold for forming rubber shoes by interior pressure, an inside part consisting of a perforated hollow last having an air inlet."

The illustrations which accompany the official specification

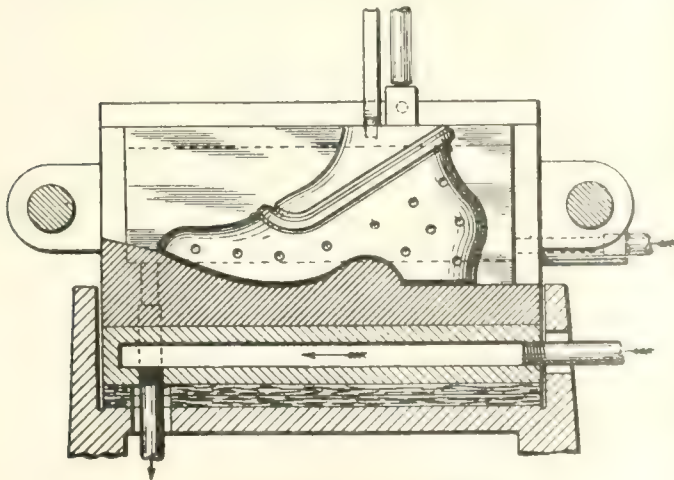
are eleven in number. Of these the most interesting to the casual reader is a skeleton view of the machine itself, which shows the parts of the mold closed around the shoe, the hand lever for opening and shutting the parts, and the steam and air inlets, and this is repeated on this page. The other two illustrations herewith show the perforated last in position and the sole plate.

It goes without saying that the detailed description of a machine such as is found in patent specifications needs considerable imagination to spur one to construct and operate mentally from such a source. It is, therefore, inter-

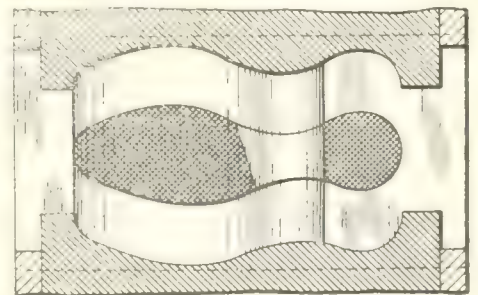
esting to know in this connection a few more facts about this most interesting mechanism. The machine itself is a marvel of simplicity and effectiveness. It is small, compact, and operated very easily by the moving of the hand lever to right and left. What its exact dimensions are, the writer does not know, but the workman standing in front of it can reach any part and its simplicity is such that one would say there was little likelihood of its ever getting out of order. It is not only a forming press but a curing press as well, as the chambers referred to in the claims are fitted to receive live steam, and the side molds and sole plate being placed in position against these heated chambers are in a very short time, hot enough to vulcanize rubber surfaces. It is understood that in practical use the machines



FORMING AND CURING PRESS.



PERFORATED LAST IN MACHINE.



SOLE PLATE.



will be made in three sizes, the largest being for boots, and the middle size for heavy overs, and the smallest for light goods. In the experimental work as showing the range of the machine both light and heavy goods were made on the smaller of the three machines. Part of the completed equipment for the battery of these machines, would be high pressure boilers giving dry steam, air compressors for the air pressure, and some minor devices and mechanisms for which patents have already been taken out.

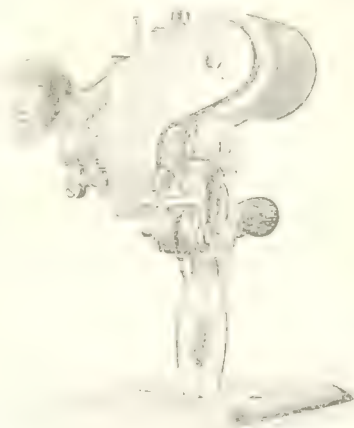
#### VICTOR TIRE MACHINE AND BRAZING OUTLET.

A VERY simple and speedy device for applying solid rubber tires to carriage wheels is shown in the accompanying illustration. To begin, the device is made wholly of metal, is light and substantial, and yet, as may easily be seen, occupies very little room. It is operated wholly by hand and requires but little effort to work it. In addition to this, the work is quickly and perfectly performed. Another valuable feature about the machine is that the whole of it is in one mechanism and does not require the transference of the wheel from one part to another in applying the tire. For the brazing apparatus a hydrocarbon torch is used, together with brass lined sleeves. All of the machine parts are numbered so that any missing part can be easily duplicated. The machine has been most thoroughly tested and is built by those who not only manufacture the tires but whose every interest lies in the line of careful fitting which is always an assistance to long life and durability. [Victor Rubber Tire Co., Springfield, Ohio.]



#### THE STAR ELECTRIC CLOTH CUTTER.

THE INDIA RUBBER WORLD has already given considerable space to various mechanisms used chiefly in rubber clothing factories for the cutting of cloth. Some of these were electric and some were power cutters. A new type which is here illustrated is known as the "Star Electric Cutter." It is 14 inches in height and weighs 35 pounds. It is capable of cutting any thickness of cloth up to  $3\frac{1}{2}$  inches and any width or length. A valuable feature of the cutter is the fact that it is perfectly portable, so that goods on any of the cutting room tables can be cut with it. This is a valuable feature, as it obviates the folding of the goods and the carrying to the machine.



The construction of the machine is simple and practical. The motor is mounted high, so as not to interfere with the goods while in use. The machine is also fitted throughout with ball bearings, in itself a most valuable feature. As a rule the machine is used on a maple table, but any ordinary table with a smooth top will do. The motor is wound for 110 to 220 volts (straight current) and consumes about 10 cents worth of current a day. Each machine is fitted with its own incandescent lamp. In order to keep a perfect cutting edge, grinders are attached and can be brought into contact with the knife in an instant. [Wolf Electric Promoting Co., No. 810 Main street, Cincinnati, Ohio.]

#### A USEFUL "RUBBER CODE."

THE new "Rubber Code," reference to which has been made already in these pages, is now being distributed, and it appears to us to fulfill all the promises made in advance by its publishers. The advantage of the use of codes in sending cablegrams is so marked that it is estimated that 90 per cent. of all oversea despatches transmitted to-day are in code words, and that without the use of codes the 213,000 miles of cables now in existence would be sadly inadequate to the commercial needs of the world. The need of codes first appealed to business men in respect to cablegrams, on account of the high cost of the service, but as the aggregate of messages by land lines must represent a much larger annual expenditure, the use of codes for commercial telegrams is rapidly growing in appreciation. The advantage of this new book is that over 22,000 words have been selected, each representing the name of an article in the rubber trade, and in addition some detail of dimension or other description, so that a single code word may be used in place of half a dozen or more ordinary words. To take a single instance, eight of the large pages of the code are devoted to Rubber Tubing, with the result that 156 different descriptions of tubing are listed, any one of which, of any desired internal diameter, may be indicated by a single word. Not only are descriptions of goods thus coded, but very many trade names and brands, so that it would scarcely be possible for a dealer or consumer to desire an article of rubber goods for which a designation cannot be found in this compilation. In addition, a single word may be used for shipping directions, for inquiries for prices, and for various other purposes which will readily suggest themselves to those who have been accustomed to use the telegraph, either in ordering goods or in responding to orders. This book, while issued as "Supplement A" to the "Western Union Telegraphic Code"—a work in wide use—"for Phrases Concerning Belting, Hose, India-rubber and Gutta-percha Mechanical Goods, Boots and Shoes, Asbestos, and Other Steam Packings, &c.," is not confined in its usefulness to owners of the Western Union Code, but is adapted for use in connection with other standard codes. It is also designed for all English speaking countries, and embraces descriptions of rubber goods peculiar to Great Britain, as well as those the use of which is confined to the United States. It embraces, among other things, the registered telegraphic addresses of rubber manufacturers and merchants in the United States and Canada, Great Britain, and the leading continental countries. The new Code has already been widely commended by rubber men. [International Cable Directory Co., No. 17 State street, New York, and Salisbury House, London wall, London, E. C.]

THE inspector of mines of Canada reports a marked development in asbestos mining in the region of which Thetford, near Sherbrooke, is the center. The output last year amounted to over \$1,000,000.

## THE OBITUARY RECORD.

CHARLES A. HOYT.

CHARLES ALBERT HOYT, long well known in the hard rubber trade, died on April 18 at Pasadena, California, where he had been visiting his son, in his sixty-fourth year. He was born in Burlington, Vermont, in 1839, his father being the late Rev. William Hoyt, who left the Protestant Episcopal ministry to become a Roman Catholic priest, and was attached to St. Ann's Church, in New York, at the time of his death in 1883. The Rev. Mr. Hoyt was for a time editor of the Burlington *Sentinel*. Charles A. Hoyt was a graduate from the University of Vermont and from Georgetown College. In 1861



CHARLES ALBERT HOYT.

he entered the employ of the India Rubber Comb Co. at College Point, New York, which owned and controlled the Good-year hard rubber patents, and in 1872 he became a member of the company, with the office of treasurer, which he held up to the merger of the company with the American Hard Rubber Co. in 1898. Mr. Hoyt was a man of capacity and took a deep interest in the business of the

company. As one of his surviving associates says, the officers of the company, whatever their titles, worked together with a common purpose in the promotion of its business, like so many partners in a firm. Mr. Hoyt's most direct interest, however, was in promoting the sales of the company's products. After the formation of the American Hard Rubber Co., Mr. Hoyt relinquished the details of business formerly in his charge, but remained to the end of his life a director of the company, taking an active interest in the conduct of its affairs.

Mr. Hoyt was a member of the New York Chamber of Commerce, the New England Society, the Society of the Sons of the American Revolution, the Long Island Historical Society, the Society of the Cincinnati, the Founders and Patriots of America, the Mayflower Descendants, and the Hamilton Club of Brooklyn. He was a director of the German-American Insurance Co., and vice president of the St. Vincent's Home for Boys. He resided in Brooklyn at No. 15 Pierpont street, and is survived by one son, Albert Sherman Hoyt, M. D., who lives at Pasadena. The accompanying portrait is from a photograph of Mr. Hoyt taken in November last.

JOHN M. STUDLEY.

COLONEL JOHN M. STUDLEY, a well known citizen of Providence, Rhode Island, died at his home in that city, on April 10, after a brief illness. He was born January 9, 1829, at Worcester, Massachusetts, where he lived until the beginning of the civil war. He had been connected with the state militia since his seventeenth year, and enlisted in the Union army, in which he saw much active service in the Fifteenth and

Fifty-first regiments, Massachusetts volunteers. He was taken prisoner in the battle of Ball's Bluff, and later was in the battle of Antietam. He made a good record as a soldier and an officer and attended the reunions of the two regiments named until the end of his life.

After the war Colonel Studley took a position with H. G. Norton & Co., rubber goods dealers in New York city, his younger brother, Thomas E. Studley, being at that time a member of the firm. In 1866 the two brothers purchased the interest of the senior partner in Garfield & Eddy, a long established rubber goods house at Providence, the firm becoming A. C. Eddy & Studleys. In 1883 Mr. Eddy sold his interest to the Studleys, who continued the business as Studley Brothers until the death of Thomas E., in 1896, since which time the style of the business has been Studley & Co.



COL. JOHN M. STUDLEY.

Before 1860 the firm of Garfield & Eddy had begun the manufacture of rubber syringes, bulbs, and tubing, renting for the purpose premises from the old Providence Rubber Shoe Co., and which are now occupied by the Bourn Rubber Co. Their manufacturing business was extensive at one time, orders being filled for Charles Davidson, Dr. Morris Mattson, the Davol Rubber Co., the Good-year Rubber Co., and for many dealers. The manufacture was continued for some time by the Messrs. Studley after the retirement of Colonel Eddy from the firm.

Colonel Studley was a man widely known in the rubber trade, exceedingly popular, and of the old fashioned, reliable New England type. He was a lifelong Democrat and took an active interest in politics, serving for ten years (1891-1901) as a member of the Providence board of license commissioners. He was a member of the Loyal Legion and the Society of the Army of the Potomac. The funeral was attended by officers of the two regiments to which Colonel Studley had belonged. He leaves a widow and son, Colonel J. Edward Studley, president of the Manufacturers' Trust Co. (Providence), and a daughter, the wife of James B. Gay, of the same city. He is survived also by a third brother, Theodore E. Studley, secretary and treasurer of the Vulcanized Rubber Co. (New York).

WILLIAM H. ALDRIDGE.

WILLIAM H. ALDRIDGE, one of the old time mechanical goods superintendents, died at his home in Trenton, New Jersey, on April 24. He had been for some time troubled with sleeplessness, and it is supposed started out some time in the night with the idea of walking it off, was stricken with apoplexy at the top of a flight of stairs and fell to the bottom, the fall killing him instantly. The deceased was born in Pennsylvania 74 years ago and had been a resident of Trenton for nearly 60 years. He was a machinist in early life but soon left that trade to go into the rubber business, being associated with





## INDIA-RUBBER INTERESTS IN EUROPE.

## HIGHER RUBBER GOODS PRICES IN GERMANY.

**T**WO circulars issued to the trade during the month are identical in form, except that one relates to technical articles and the other to surgical goods. The circular follows:

ENL. 1. MAR. 1903.

THE undersigned rubber goods factories, owing to the continued important advances in the prices of crude rubber and other raw materials used in the manufacture of rubber goods, are forced, in order to keep pace with the increased cost of manufacture, to place an advance of 10 per cent. on *technical articles* [in one circular, *surgical articles*] of soft rubber, taking effect April 6, 1903. This decision was concurred in unanimously at a meeting held in Berlin on the 24th instant, and is in accord with the necessity.

In the list following, \* indicates signatures of manufacturers of technical goods, and † manufacturers of surgical goods:

- \* † S. Saul, Aachen.
- \* Aktiengesellschaft für Fabrikation technischer Gummiwaren, C. Schwanitz & Co., Berlin.
- \* Behrendt & Co., Berlin-Reinickendorf.
- \* Dr. Cassirer & Co., Berlin-Charlottenburg.
- \* Deutsche Gummi- u. Guttaperchawaren Fabrik, A.-G., vorm. Volpi & Schlüter, Berlin.
- \* Deutsche Kabelwerke, A.-G., Berlin-Rummelsburg.
- \* † Gummiwaren-Fabrik Voigt & Winde, A.-G., Berlin.
- \* Gummiwerk Oberspree, G. m. b. H., Berlin Oberschönweide.
- \* S. Herz, Berlin.
- \* † E. Kübler & Co., Berlin.
- \* † Norddeutsche Gummi- u. Guttaperchawaren-Fabrik, vorm. Fonrobert & Reimann, A.-G., Berlin.
- \* † Vereinigte Berlin Frankfurter Gummiwaren-Fabriken, Berlin.
- \* † Bremer Gummiwerke Roland, A.-G., Bremen.
- \* † Sächsisch-Böhmische Gummiwaren-Fabriken, A.-G., Dresden-Löbtau.
- \* H. Schwieder, Sächsische Gummi- u. Guttaperchawaren-Fabrik, Dresden-Neustadt.
- \* † François Fonrobert, Finsterwalde.
- \* Mitteldeutsche Gummiwaren-Fabrik Louis Peter, Frankfurt a/M.
- \* † Blödnér & Vierschrodt, Gotha.
- \* Vereinigte Hanfschlauch- u. Gummiwaren Fabriken zu Gotha, A.-G., Gotha.
- \* Asbest- u. Gummiwerke Alfred Calmon, A.-G., Hamburg.
- \* Continental-Caoutchouc- u. Guttapercha-Compagnie, Hannover.
- \* † Hannoversche Actien Gummiwaren Fabrik, Hannover.
- \* † Vereinigte Gummiwaren Fabriken Harburg Wien, vorm. Menier—J. N. Reithoffer, Harburg a/Elbe and Hannover Linden.
- \* † Münden Hudesheimer Gummiwaren-Fabriken Gebrüder Wetzell, A.-G., Hildesheim.
- \* † Franz Clouth, Rheinische Gummiwaren-Fabrik m. b. H., Köln-Nippes.
- \* † Leipziger Gummiwaren-Fabrik, A.-G., vorm. Julius Marx, Heine & Co., Leipzig-Plagwitz.
- \* Mannheimer Gummi-, Guttapercha- u. Asbest-Fabrik, Mannheim.
- \* † Aktiengesellschaft Metzeler & Co., München.
- \* † Gebrüder Kunth, Münden, Hannoverisch.
- † H. M. Anton, Berlin.
- † Fr. M. Daubitz, Berlin-Rixdorf.
- † Meyer & Falkenhain, Berlin.
- † C. Müller, Gummiwaren-Fabrik, A.-G., Berlin.
- † Schlesische Gummiwaren-Fabriken, Gustav Eichler, Breslau.
- † Hannoversche Gummi Kamm-Compagnie, A. G., Hannover-Limmer.
- † Gustav Wellmann, Hannover-Hainholz.
- † Hoxter'sche Gummifaden-Fabrik, Emil Arntz, Hoxter.
- † M. Steinberg, Köln a/Rhein.
- † Phil. Penin, Gummiwaren-Fabrik, A.-G., Leipzig-Plagwitz.
- † "Vulkan" Gummiwaren-Fabrik Weiss & Baessler, Leipzig-Lindenau.
- † Zieger & Wiegand, Leipzig-Volkmarisdorf.

## THE GERMAN ELECTRICAL CONSOLIDATIONS.

THE new consolidated electrical manufacturing firm mentioned in the THE INDIA RUBBER WORLD for March will be known as the Siemens-Schückert-Werke G. m. b. H. [Company with limited liability.] The capital is to be 90,000,000 marks [= \$21,420,000.] The working capital is to be contributed equally by

the Siemens & Halske and Schückert interests. The new arrangement dates from April 1. There are included the Schückert factories at Nuremberg and the Siemens & Halske dynamo works at Charlottenburg and cable works in Westend.—The arrangements for the combination of the Allgemeine Elektrizitäts and the Union Elektrizitäts companies mentioned at the same time, have also been completed. Each concern will keep separate accounts, but will pool their profits, which will be apportioned according to the ratio of their respective capitals, the former company receiving fifteen-nineteenths and the latter four-nineteenths. The combination will become operative on July 1, and will continue for thirty-five years.

## SENATOR MARET'S GOLDEN BOOK.

ON the occasion of the twenty-fifth anniversary of his honorary membership of the city council of Harburg, Herr Senator Carl Maret, financial director of the Vereinigte Gummiwaren-Fabriken, Harburg-Wien, presented to the city a beautiful and costly "Golden Book," with a view to having recorded in it in future, after their demise, the names of all persons, irrespective of their station in life, who have become prominent in services rendered the city. In his dedication Senator Maret says: "As a citizen of a steadily developing community with which I have been identified for 46 years, I have come to conclusion that the city of Harburg owes its prosperity, not alone to its favorable location, but first of all to the thrift and industry of its inhabitants, especially the aim of its burghers for the common weal which has ever been led by the zeal of its best sons."

## A RUBBER TRUST IN SWEDEN?

ACCORDING to the Oeresund Post, certain financial interests in Stockholm have been concerned lately with negotiations for acquiring a majority of the shares in the three principal rubber manufacturing joint stock companies in the country. The shares of these companies have, therefore, been quoted at higher figures of late, though the dividends distributed during the last few years have not been so large as formerly, when the Helsingborg company paid 50 to 60 per cent. Another reason suggested for the advance in shares is that a motion has been made before the riksdag, now in session, for an increase in the duty on imported rubber goods, although the rate is already high.—The three principal Swedish rubber factories are the Skandinaviske Gummi Aktiebolaget, at Viskafors; the Aktiebolaget Velox, at Trelleborg; and the Helsingborg Gummi-Fabrik, Aktiebolaget.

## IT WAS ANOTHER FIRM THAT FAILED.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In your English notes you may be referring to the failure of Messrs. Frankenburgs, Limited, of Birmingham, Manchester, and London, in your next issue. As we have been caused annoyance by the similarity of name to our own, we should be very much obliged if you would make special mention of the fact that this firm has no connection at all with our own.

Thanking you in anticipation, we remain, yours faithfully,

ISIDOR FRANKENBURG, LIMITED.  
Salford, Manchester April 1903. H. FRANKENBURG, SECRETARY.

## GREAT BRITAIN.

THE Cravenette Co., Limited (Bradford, England) are reported to have transferred their business to the Bradford Dyers' Association. The company have lately paid dividends at the rate of 15 per cent., but in view of possible future



competition, the directors were of the opinion that, by accepting the terms offered by the association, more than the capital subscribed by the shareholders could be returned to the latter.

=Although the net profit of J. Mandeborg & Co., Limited, mackintosh manufacturers at Manchester, was smaller for the last business year than for the preceding year—£35,500 against £46,000—the rate of dividend is the same, 17½ per cent. Only £10,000 is placed to reserve, however, against £15,000 in the preceding year, and £5000 less is carried forward.

=The United States Rubber Co.'s London depôt was among the successful bidders recently for supplying waterproof coats for the employés of the tramway service in Glasgow, which is operated by the city.

=The Clyde Rubber Works Co., Limited (Glasgow) purpose erecting new and larger buildings than they now occupy, on five acres of land lately acquired.

=The Peter Union Tyre Works, 27-29, Rosebury avenue, E. C., is a new establishment in London, devoted to the sale of mechanical rubber goods and solid tires made by Louis Peter, Mitteldeutsche Gummiwaaren-Fabrik, Frankfort o/M., Germany.

=The W. T. Henley's Telegraph Works Co., Limited (London), have purchased about 30 acres of land at Greenhithe (Kent) for the erection of new cable works.

=A show room for the shoes manufactured by the Bourn Rubber Co. (Providence, Rhode Island) has been opened by W. H. Levy at 34, Hatton garden, London.

#### GERMANY.

THE *Gummi Zeitung* notes that the substitute for Gutta-percha patented by Adolph Gentsch, of Vienna, the manufacture of which has been taken up by Fellen & Guillaume for the continent and The New Gutta-Percha Co., Limited, in Great Britain, "is not the product called 'New Gutta,' made by the firm of Gentsch & Heise, and known to our readers for years."

=The dividend for the past business year of the Hannoverische Actien-Gummiwaaren-Fabrik (Hanover) will be 10 per cent.—the same as for the preceding year. The business makes a good showing, but borse quotations for the shares lately have shown a marked decline—attributed in some quarters to a heavy shareholder being forced to realize on his holdings.

=The dividend of C. Müller, Gummiwaaren-Fabrik-Aktiengesellschaft (Berlin), is 9 per cent., the same as in 1900-01. The directors again report favorable prospects.

=It is reported that a company is in course of formation in Hamburg for the purpose of establishing large new works for the manufacture of electric cables.

=The twenty-fifth business anniversary of Blödnor & Vierschrodt, manufacturers of hose and rubber goods at Gotha, was celebrated on March 16, when substantial presents of money were made to the workmen.

=Hartmann & Braun, Aktiengesellschaft (Frankfort o/M.) report a net gain for last year of 170,434 marks, after writing off 109,000 marks and placing 27,000 marks to reserve, allowing a dividend of 7 per cent. Last year's dividend was 8 per cent.

=The stand at the Continental Caoutchouc- und Gutta-percha Co., at the recent International Motor Exhibition at Berlin is reported to have been examined with much interest by the Kaiser, who is known to take much interest in everything pertaining to automobiles.

#### BELGIUM.

ON the night of March 15, the machine house of the Manufacture Générale de Caoutchouc de la Meuse, at Siessin, near Liège, was destroyed by an incendiary fire. The loss was covered by insurance.

## INDIA-RUBBER GOODS IN COMMERCE.

### EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values for February, 1903, and the first eight months of four fiscal years, beginning July 1, not including exports to Hawaii and Porto Rico:

Month.	February, 1903.	Boots and Shoes.	All other Rubber.	TOTAL.
February, 1903....	\$ 27,141	\$ 38,028	\$ 178,317	\$ 274,933
July-January.....	467,154	571,839	1,220,148	2,571,391
Total.....	\$524,847	\$1,125,555	\$1,407,722	\$2,548,424
Total, 1901-02....	401,557	885,561	1,077,189	2,364,309
Total, 1900-01....	34,500	612,279	1,112,708	2,068,496
Total, 1899-00....	357,930	281,107	876,259	1,515,296

Pairs of rubber footwear exported during the same periods:

1903.	1901-02.	1900-01.	1899-00.	Total.
3,236,008	1,000,471	1,208,585	2,272,282	2,030,215

### RUBBER GOODS EXPORTS FROM NEW YORK.

VALUES during five weeks ended March 31, 1903:

Argentina... \$ 1,141	Dutch E. Ind. \$ 216	Nova Scotia. \$ 57
Australia... 16,492	Dutch Guiana 142	Penn. .... 189
Aus. Hung'y 6,894	Dutch W. Ind. 22	Philippines.. 372
Azores. .... 36	Ecuador.... 288	Portugal.... 30
Belgium.... 2,591	Egypte.... 199	Russia.... 155
Brazil.... 904	France.... 9,268	San Domingo 363
Brit. Africa.. 9,713	Fr. W. Ind.. 13	Spain .... 2,163
Brit. E. Ind. 941	Germany... 24,035	Sweden ... 1,160
Brit. Guiana 247	Great Britain 105,064	Switzerland.. 147
Brit. W. Ind. 1,312	Haiti.... 55	Venezuela... 511
Central Amer 637	Italy.... 193	
Chile..... 550	Japan.... 1,473	Total ..\$213,157
China..... 155	Mexico .... 8,995	
Colombia... 729	Netherlands. 1,418	Jan 28 Feb 24 144,192
Cuba..... 9,008	Newfoundld. 811	Jan. 1-27... 148,220
Dan. W. Ind. 142	New Zealand 1,612	
Denmark... 1,690	Norway ... 1,111	Total 3 mos \$505,569

The exports of such goods from New York amount usually to 60 per cent. of the total from the United States.

### DUTY ON IMPORTED RUBBER BIT COVERS.

VEIL Brothers (New York) imported between December, 1900, and March, 1902, several lots of goods described as "Hancock's patent rubber A 1 curl bit mouth cover," which was charged for duty as "saddlery and harness and parts of, either finished or unfinished," at 45 per cent. *ad valorem*. The importers claimed the goods to be rubber tubing, and dutiable at the rate of 30 per cent. as "manufactures of rubber." The general appraisers at New York April 9, 1903, decided: "Sheets of rubber about 6 inches in length and the same in width, rolled tubular in form, used to cover the portion of the metal bit entering a horse's mouth as a protection to the latter, detachable, and ready to be further shaped to fit any bit and suitable for no other purpose, are properly dutiable at the rate of, 45 per cent. *ad valorem* as 'saddlery and harness and parts of, either finished or unfinished,' under the provisions of paragraph 447, tariff act of July 24, 1897."

### VACUUM DRYING OF RUBBER.

THE vacuum drying process for crude rubber is finding recognition right and left both, for rubber and materials used in rubber compounding. By the use of this apparatus it takes only about two hours to extract moisture from wet materials, and beside the saving in time there is a considerable improvement in the quality of the goods. This is owing both to the vacuum and to the low temperature employed. The American Vacuum Drying Machine Co., No. 120 Liberty street, New York, who have introduced this mechanism, are to be congratulated.

## THE RUBBER TRADE IN AKRON.

BY A RESIDENT OF AKRON, OHIO.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The demand for tires continues unabated, and the record of the present year will surpass any in the tire making history of Akron. The shipments of automobile, carriage, and bicycle tires are going out from Akron on nearly every train, but especially does the volume of the express shipments attract the notice of the casual observer. There is not a factory in Akron which is not working over time, in the tire departments, at least, and while the automobile business claims paramount attention the carriage tire trade was never so brisk so far as the demand for goods is concerned. Prices are still low—that is, the heaviest demand is more for a cheaper grade of goods than the manufacturers like to see, but the indications are that these conditions will improve.

"I look to see the chief demand to be for first class tires and a decreased call for the cheaper goods in the near future," said one prominent manufacturer. "The carriage men and the public are learning that the cheapest goods are not the cheapest in the long run. The general average of quality and prices may not be elevated much this year, but by another season I think it will be."

On the other hand, an important fact is pointed out with reference to both automobile and carriage tires. It is that the experience of the past few years has enabled manufacturers to produce really high grade tires at lower prices than formerly.

"It is the experience of the bicycle tire manufacturers all over again, in some respects," said one manufacturer. "Years ago tires were sold at \$12 a pair that now are sold at \$3. The reason is simple. In former days so costly a compound was thought necessary that tires could not be made to sell at any such prices as now obtain. Afterward it was discovered that a tougher, better wearing, and no less resilient tire could be made by using less Pará rubber and more of other ingredients. Tests were made with scores of compounds. Some factories had forty or more different compounds under test at one time. The result was that prices steadily declined, while quality no less surely increased. Brains and systematic experiments brought these results, and it is a common thing to hear a manufacturer remark how fortunate he would have been had he known a dozen years ago all that he knows now of the making of tires. We have worked all these years to produce as good a tire as possible at as low a figure as possible, and the consumer reaps the benefit. The manufacturers are entitled to no small degree of credit for what they have achieved in this. While there are some very poor tires put upon the market, no reputable manufacturer is going to put his name on an article that he does not believe to possess some merit. It is a very short sighted policy that permits a tire to go out which cannot be expected to stand the racket for a year at least, no matter how little the buyer pays for the goods."

There is no exaggeration in speaking in strong terms of the activity in the tire trade, and this includes bicycle tires as well. One manufacturer estimated that the output of bicycle tires this season would be, conservatively, 20 per cent. greater than that of last year. Some of the factories would be glad to sublet contracts in order to keep up with their orders, but are unable to do so, as all have plenty of business of their own demanding attention.

\* \* \*

MORE men than can be had, apparently, are needed. One large factory has been advertising continuously for several weeks in all the rural weeklies and dailies in this part of Ohio

for men and still its needs are not supplied. In this connection it is a curious fact that within an hour after the fire which destroyed the plant of the India Rubber Co. on March 26, representatives of two or three other large local rubber factories were on the ground to hire men. They were picked up fast on the afternoon of the fire and the following morning, in this way, and when, two or three days later, a gentleman arrived from an outside factory to offer employment to some whom the fire had thrown out of work he found few, if any, who had not already taken employment elsewhere. And the India company employed approximately 300 people. There were girls and boys among this number, but even these quickly obtained other positions.

How long the extremely busy season is to continue is somewhat problematical. The summer months always bring a "breathing spell," if nothing more, especially in the tire departments, which now are the busiest. But there is every reason to believe that this summer the slack season will come later and last a shorter time than usual.

\* \* \*

A DEFINITE decision with reference to the rebuilding of the plant of the India Rubber Co. has not been reached by that company and the Rubber Goods Manufacturing Co., of which the India company are a part. President L. D. Parker came to Akron soon after the fire occurred and went over the situation with care. Arrangements were made to take care of contracts held by the India company in other factories of the Rubber Goods company, but naturally the excellent business the former were building up received a setback. The India Rubber Co. were acknowledged to be in a more satisfactory condition at the time of the fire than ever before in their history. They were operating their plant to its capacity and the future seemed very bright. The insurance adjusters spoke in complimentary terms of the good order in which they found all things pertaining to the office in their investigations as to stock and goods on hand. The insurance, \$148,000 approximately, was paid in full, the adjustment being completed within a week after the fire. The India company have been repairing their machine shop, which was not totally destroyed, with a view to doing work for some of the other constituent factories of the Rubber Goods company, and molds which were saved from the flames have been shipped to these companies. W. L. Wild, the local manager, has been in Hartford to look after the progress of the work on the India Rubber Co. contracts in the factory there. As individuals Akron business men have urged the rebuilding of the ruined factory, but there is no board of trade or similar organization here to make a united effort in this direction.

\* \* \*

AKRON rubber manufacturers were considerably interested in a recent communication in THE INDIA RUBBER WORLD headed "Guarding Rubber Factory Secrets," and signed "D. L. R." The fact is that guests are seldom admitted to the large rubber factories here, and instead of the factories becoming more and more open to visitors, the reverse is true. It is not an uncommon thing for outsiders to be shown through rubber works here, but visitors simply as visitors can hardly be said to be welcome. At one time, when a large number of strangers were to be in the city, and the Akron Chamber of Commerce requested that these guests be allowed to visit the leading industries, the rubber manufacturers without exception declined to accede to the request. This refusal was partly on account of the unwillingness of the manufacturers to suffer the interruption to their work which the presence of a large number of visitors would cause, but also on account of the use of special machinery and secret processes in their factories. While the



machines and processes of the different companies may be in most cases practically identical, still nearly every factory does have its carefully guarded secrets. Machines have been built and are in use in Akron which, the owners implicitly believe, are not duplicated in the works of any competitor. In connection with the guarding of factory secrets, and as evidence that the secretiveness is not confined to the rubber industry, the statement is made that the method of making carbon paper and typewriter ribbons is known to not more than a score of persons. While it may be true that not one among hundreds of visitors to a rubber factory would learn anything the manufacturer would not be entirely willing he should know, it is also true that, except for the policy of exclusion, Akron manufacturers would be overwhelmed by requests to be shown through their establishments. As a rubber manufacturing center this city is known far and wide, and every day strangers here express their curiosity to see "how rubber is made." In general, to admit one is to admit all, and when it is considered that nearly half a day could be spent in going from department to department in the larger factories, allowing time for only a very hasty inspection, it will be seen that the admission of visitors would keep several guides busy. Very likely it was in Akron that "D. L. R." saw the sign which read: "Owing to our many secret processes and special machines, we admit no guests to our factory." He might have seen this notice in not more than one place, but in effect it is posted in nearly, if not quite, all the Akron rubber factories.

\* \* \*

THE plant of the People's Hard Rubber Co., sold on March 16, by James W. Hoffert, assignee, to James F. Giles, is being dismantled by degrees and the machinery sold piecemeal here and there. It is generally understood in Akron that the factory and premises are for sale and it has been rumored that promoters of a prospective general rubber company had in view the purchase of the property. Nothing, however, has come of the matter. Goods and material on hand have all been shipped away.

Contracts have been let for the completion of the Akron and Barberton belt line railroad, which will connect with five important trunk lines. The road will pass the entire length of the five acre tract at Beaver and Carroll streets, purchased by The B. F. Goodrich Co. a year ago, and will make of that locality a desirable site for almost any line of manufacturing.

Plans are being prepared by The B. F. Goodrich Co. for the erection of an addition to their machine shop. The new structure will be of brick, 50 x 75 feet and two stories in height.

The Goodyear Tire and Rubber Co. have begun the manufacture of the Saunders compressed air golf ball, and have enough orders already on hand to insure a considerable output for this, their first season. Repeated tests on the mechanical drive the company constructed have all been favorable.

The Summit Rubber Co. are having plans prepared for an addition which will more than double their present capacity. A two story brick structure 60 x 125 feet is contemplated. The company expect to add a line of mechanical goods to their present output of molded and dipped goods.

The Lilly Rubber Manufacturing Co., incorporated on February 13, and now operating in a small plant in Barberton, have begun the erection of a two story brick building 60 x 80 feet, which will be the main structure of their establishment.

Ex-Congressman George W. Crouse, who many years ago aided in giving the rubber business its start in Akron by reason of his faith in the Goodrich enterprise, has met with financial reverses in the receivership of The Aultman-Miller & Co., harvester manufacturers, and the subsequent bankruptcy proceed-

ings against that company and himself. Mr. Crouse as president of The Aultman-Miller & Co. was an endorser upon their paper to the extent of \$1,500,000. He has been interested in many other Akron institutions and, though not at all actively identified with the rubber trade, has long held an honorary position as second vice president of The B. F. Goodrich Co.

Rubber sociables, though no new thing the country over, have lately become popular among the young people of Akron churches. In the aggregate the quantity of old rubber gathered up by them is surprisingly large.

Alexander Adamson, proprietor of the Adamson machine shops, who reluctantly accepted the Prohibition nomination for mayor, received the largest vote in the election on April 6 ever given a candidate of that party in Akron. His vote would no doubt have been still larger, but that it became known before the election that in the event of his being elected he could not leave his business to accept the position. Ex-State Representative, Charles W. Kempel, Democrat, who was elected to the mayoralty, is a member of the Painter's union, but his campaign was not made as the candidate of the labor unions and Mr. Kempel is prejudiced neither against the employers of labor nor biased in favor of the unions. Superintendent Joseph Dangel, of the local factory of the American Hard Rubber Co., was elected councilman at large, and George S. Whitney, a foreman of the Whitman & Barnes Manufacturing Co., was elected to the council.

John F. Druckemiller, lately manager of the Central Union Telephone Co.'s Akron office, has been chosen secretary of the Akron Manufacturers' Association, reference to the organization of which was made in THE INDIA RUBBER WORLD for April, and has opened offices in the Hamilton building.

Colonel George T. Perkins, president of The B. F. Goodrich Co., is expected at home by May 1 from a two months' sojourn in California.

Messrs. R. P. Marvin and E. C. Shaw, of The B. F. Goodrich Co., returned on April 27 after an absence of seven weeks in Europe.

Manager T. W. Miller, of the Faultless Rubber Co., returned on April 15 from the Pacific coast. He reports general activity in the rubber trade beyond the Rockies.

Advices received by the Colonial Tire and Rubber Co. indicate much activity in the rubber trade, especially in France. It is also stated that there has been a considerable decline in the quantity of American rubber products shipped into France and Germany. On the other hand, the American trade has been making rapid inroads in South America and Central America, where the trade of Germany and France has always been large.

A. H. Marks, superintendent of The Diamond Rubber Co., is president, and C. B. Raymond, local manager of the American Hard Rubber Co., is vice president, of the Young Men's auxiliary of the Akron City Hospital Association recently organized. The object is to help provide for and maintain the enlarged City Hospital, a charitable institution at the head of which the older business have long stood; and the latter now invite the coöperation of the younger men.

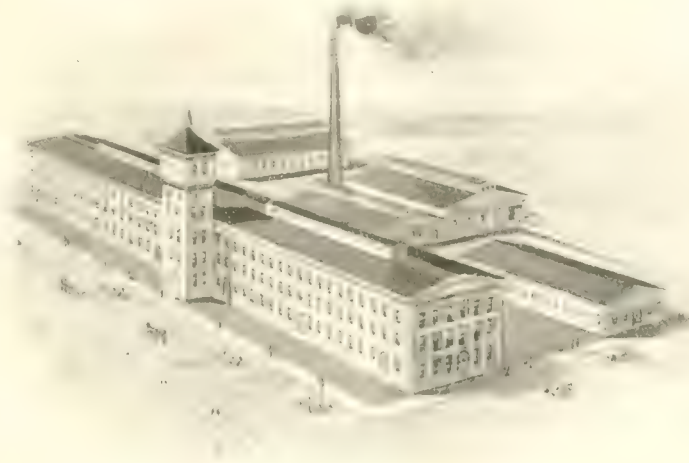
The Haskell Golf Ball Co. continue to be very busy. For weeks their average output has exceeded 1000 dozen finished balls daily. The litigation between the Haskell company and other manufacturers for alleged infringements of patents remains to be disposed of and will probably not come up in the courts until the fall sessions.

The Camp Rubber Co. (Ashland, Ohio), really an Akron enterprise, have engaged in the manufacture of rubber sponges, which they will push actively in the trade this spring.

## NEWS OF THE AMERICAN RUBBER TRADE.

## EUREKA RUBBER MANUFACTURING CO.

THE plant of this new company, at Trenton, New Jersey, is now completed and is in every respect an up-to date, modern factory. The main building is a three story brick with a tower, 308×55 feet. There is in addition to this, a brick storehouse, 100×60 feet; a dry heater for carriage cloth 100×55 feet; and an engine and boiler house 60×80 feet. The power equipment consists of a Watts-Campbell compound condensing tandem engine, capable of developing 1000 H.P., although at the present time the company are using about 500 H.P. The boilers were built by William R. Thropp (Trenton), and are four in number, furnishing 600 H.P. The mixing mills are 15 in number, 18×50, of Farrel make. The sheet calenders, which are 22×60, are of Farrel and Birmingham makes. In addition to these there is a 3 platen belt press (30 feet×42 inches), together with seven hydraulic presses for mold work. The factory has its own electric lighting plant, for which is run a special direct connected engine. For fire protection, in addition to the usual fire pumps, the mill is very thoroughly sprinkled, the International system being used. Nothing seems to have been forgotten in the making of a complete and practical mechanical goods plant, as may be seen by examination of the factory proper, the carpenter and machine shops, and the reclaiming plant and is further evidenced by a railroad siding close to the ample storehouse and entering the boiler house.



FACTORY OF THE EUREKA RUBBER MANUFACTURING CO

## CANADIAN RUBBER CO. OF MONTREAL.

At the adjourned annual meeting of shareholders on April 8 the following board of directors was elected: H. Montagu Allan, J. B. Learmont, C. F. Smith, Andrew A. Allan, J. O. Gravel, F. C. Henshaw, Hugh A. Allan, and H. Markland Molson. At a subsequent meeting of the directors the officers were reelected, as follows: H. Montagu Allan, president; J. B. Learmont, vice president; and E. A. Wright, secretary-treasurer. Mr. D. Lorne McGibbon was elected general manager.

## BOSTON WOVEN HOSE AND RUBBER CO.

THE company have filed with the Massachusetts commissioner of corporations the following statement of their condition as of date September 1, 1902:

ASSETS.		LIABILITIES.	
Land and buildings.....	\$ 265,300	Capital stock.....	\$1,200,000
Machinery.....	300,000	Debts.....	200,000
Cash and debts receivable	525,080	Reserves.....	32,010
Stock in process.....	480,329	Balance profit and loss	\$8,099
Patent rights.....	10,000		
Total.....	\$1,580,710	Total.....	\$1,580,710

## NEW ENGLAND RUBBER CLUB.

THE annual spring dinner will be given in Boston on the even-

ing of May 15. The dinner and entertainment committees believe that they have arranged for an entertainment that will be the equal at least of any dinner in the history of the Club. Full particulars will be mailed to members and friends in a few days.

## DRESSER &amp; CO. WILL PAY IN FULL.

At a meeting of creditors of Dresser & Co. (New York), commission merchants in hosiery, silks, and elastic webbing, on April 8—the failure of which firm was announced in THE INDIA RUBBER WORLD last month—it was announced that their claims would be paid in full. A statement was made of the assets and liabilities, which showed liabilities of \$1,178,057, of which \$751,000 are unsecured and \$427,047 secured, and assets of \$316,327. It was stated in behalf of Mr. Daniel Le Roy Dresser, the senior member of the firm, that within 90 days from April 7, the sum of \$850,000 in cash would be deposited with the Knickerbocker Trust Co., in trust for all creditors, to be applied to the payment of unsecured claims against himself or the firm. He was assured that at least \$500,000 would be deposited within 30 days. It was agreed by the creditors that the bankruptcy proceedings should be dismissed and the business restored to the control of the firm as soon as the necessary legal formalities could be complied with. The creditors then offered to deduct 10 per cent. from their claims, to be applied to the legal expenses incurred and the expenses of the receivership. Mr. Dresser has some very wealthy relatives, but it is understood that their aid was not required in the arrangement mentioned above.

## COMBINATION RUBBER AND BELTING CO.

THE Combination Rubber and Belting Co. (Bloomfield, New Jersey) in addition to their general line of mechanical goods, are making a decided specialty of belting of all kinds, particularly mining and conveyor belting. They have recently opened a sales room and offices at No. 198 Randolph street, Chicago, Illinois.

## THE PROVIDENCE RUBBER STORE.

THE firm of Studley & Co., proprietors of the original "Providence Rubber Store" (Providence, Rhode Island)—established in 1857—is going out of existence. The business will be continued, wholesale and retail, by Edward R. Young, who has been with the house for twenty-seven years, first with A. C. Eddy & Studleys, then Studley Brothers, and latterly Studley & Co.

## NEVER MADE A TIRE.

JAMES B. KELLOGG, twice convicted in connection with "get-rich-quick" schemes, was examined on April 13 in New York, on a charge of using the mails for fraudulent purposes, the case being the one referred to in the last INDIA RUB-



BER WORLD (page 245). The New York Herald's report says:

Henry L. Prentice, of No. 550 West One Hundred and Forty-eighth street, said he had been recommended to see Kellogg about underwriting \$300,000 worth of stock of the International Wheel, Tire and Rubber Co. The par value of the stock was \$1 a share, but it sold for from 10 cents to 30 cents a share. About 7000 shares had been sold, for which he received about \$1000. The witness said the company purchased a rubber plant in New Brunswick, but ultimately defaulted on the payments.

"Did it ever make a tire?"

"No, sir, not a single tire," replied the witness.

#### THE PENNSYLVANIA RUBBER CO.'S PLANT.

THE cut herewith gives a view of the new plant at Jeannette, Pennsylvania, near Pittsburgh, of the Pennsylvania Rubber Co., who removed some months ago from Erie, on account of an urgent necessity having developed, through the growth of their business, for much larger facilities than it was possible conveniently to install at Erie. The new buildings are mostly of one story construction, having the modern sawtooth roof, with its northern light, and so laid out that the superintendent



can survey nearly the whole interior from any part of the factory. Every precaution has been taken not only to equip the plant with the best machinery now known, but to so group the present buildings, that additions can be made for more than doubling its capacity without changing the system that has been adopted. The ground occupied at Jeannette consists of 21 acres, with a frontage on the main line of the Pennsylvania railroad of more than 1200 feet.

#### STOUGHTON RUBBER CO.

THE company have filed a certificate with the Massachusetts commissioner of corporations, showing its condition on February 17, 1903, to have been as follows:

##### ASSETS.

Land, buildings and machinery.....	\$180,860
Cash and debts receivable.....	225,101
Merchandise and stock in process.....	151,748
Sundries.....	7,285
Total.....	\$494,995

##### LIABILITIES.

Capital stock.....	\$200,000
Debts.....	173,188
Balance Profit and Loss.....	101,439
Total.....	\$494,995

#### THE RUBBER SHOE FACTORIES.

A NOTICE was posted at the factories of the Boston Rubber Shoe Co. on April 14 that the usual spring vacation would not be given this year, though there may be a shutdown in mid-summer. The Fells factory was shut down on March 30 and 31. —The two companies at Naugatuck, Connecticut, closed their factories on March 28, for one week. —The two factories of the Woonsocket Rubber Co. were closed for two weeks, resuming work on April 13. The company are said to have enough orders ahead for the rest of the year. —The National

India Rubber factory (Bristol, Rhode Island) resumed work on April 6, after a shutdown of a week. —The factory of the Lycoming Rubber Co. (Williamsport, Pennsylvania) closed at the end of the last week in March for two weeks, for stocktaking and repairs. —The annual shutdown of the Apsley Rubber Co. (Hudson, Massachusetts) occurred during the week beginning April 13. —Work at the Beacon Falls Rubber Shoe Co. promises to break all records for this season of the year. —The Concord Rubber Co., who are going out of business, closed their factory permanently on April 15.

#### BERLIN RUBBER MANUFACTURING CO., LIMITED.

THE above named company are very considerably enlarging their plant at Berlin, Ontario. They are increasing their vulcanizing capacity, and erecting a four story building, 100 X 50 feet, to be used as a warehouse and offices. The new building will be constructed entirely of cement.

#### OUTING OF THE GOODRICH FISH CLUB.

THE B. F. Goodrich Fish and Game Club held their first Annual at Long Lake Park, Akron, Ohio, on Saturday, April 4. After the "Assembly" came the election of officers, the planning of business for the year to come, and the feast, the very original menu of which is appended:

Chin Chowder—Goodrich Recipe No. 120.	Steamer Rubber Neck Clams
Legs Oysters.	From Lower Basin and Lock 1
FISH.	
Long Lake Salmon. Oil Vitrified Sauter.	Baked Shad. Belt Dressing.
LOBSTERS—All present.	
ROAST.	
Turkey—Stuffed with Oil Chestnuts.	Duck—Sea Island.
Black and White Legs.	Breast—Up River, without Shrinkage
Chicken—Wagon Spring, Patented.	
VEGETABLES.	
Potatoes—Au Gratin.	Green Peas—Haskels.
Sweet Potatoes—Not to be named.	Corn—One Night Cuts.
ONIONS—Deodorized.	
COLD DISHES.	
Ham—Vapor Cured.	Salad—Mixed Scrap.
Tongues—Rubber Salesmen.	Sliced Hard Tire Cement.
LIBRARY AND LUNCH.	
Mill and Calender Rolls.	Pay Rolls.
Uncured Friction Pie.	Pará Biscuits.
Lady Fingers—Specialty Department.	
Sponge Rubber Cake.	
Accra Flake Pudding.	
Fruit of Labor.	
Nuts and Set Screws.	
Cheese—Special Moulded.	
Crackers—Hard Rubber.	
COFFEE.	
Tea.	
Mexican Cultivation.	
WINE.	
In Hot Water Bottles only.	
CIGARS.	
Pure Gum Filler, Cloth Wrapper.	
By Several Goodrich Rubber Bands.	

The wintry weather was not favorable to the outing, the trip being made by steam launch via the Ohio canal, but the attendance was large. The club contemplate leasing Long Lake park and the summer hotel there for the season.

#### BRAVERY OF A MACKINTOSH MODEL.

A NOTABLE instance of bravery was exhibited by a young married woman employed at the factory of the Hodgman Rubber Co., near New York, on the evening of April 14. On her way home from the factory she saw an express train on the New York Central railroad rounding a curve at full speed, while just ahead of it a local train was stalled. Springing between the tracks, at the risk of her life, she signalled the fast train to stop, remaining until conscious that the signal had been seen, and then leaped aside while the train went by and collided with the train in front. Its speed had been lessened, however, and the collision resulted only in the injury of several passengers, whereas otherwise the result might have been terribly fatal. The young woman, seeing that physicians were

needed, was the first to think to run for nearly a half mile to the nearest telephone and send messages for aid, which soon arrived. The heroine was Mrs. Margaret H. Emmett, of Bronxville, N. Y., employed as a "model" in the waterproof garment department of the Hodgman factory, her duties being to try on coats made by the firm.

#### AN AMERICAN MADE RUBBER SPONGE.

ON the editorial desk of the New York office of THE INDIA RUBBER WORLD is a rubber sponge of American manufacture that is really what it claims to be; that is, the equal, if not the superior of anything yet produced in the world. The cells are very even, the sponge is of good color, light in weight, and will take up as much water as anything in the sponge line ever produced. Just how much time and money have been spent by American manufacturers in trying to get a rubber sponge perfect will probably never be known. Certain it is, however, that dozens of companies have experimented, and at times been very near success and yet lost it by a margin narrow enough to spell "failure." Some one, however, was bound to win out, and who more likely to do so than the Camp Rubber Co., at their model plant in Ashland, Ohio, the makers of this sponge.

#### UNITED STATES RUBBER CO.

THE eleventh annual meeting of shareholders, for the election of directors and for the transaction of any other business which may properly be brought before the meeting, will be held at the office of the company in New Brunswick, New Jersey, on Tuesday, May 19, at 12 o'clock, M. The transfer books, closed on April 27, will reopen at 10 A. M. on May 20.—At a meeting of the board in New York on April 16, John D. Carberry, who has been connected for several years with the general offices of the company, was elected assistant secretary.—Transactions in the company's shares on the New York Stock Exchange since our last report, have been as follows:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Mar. 28	1,300	15 3/4	15	510	53 1/2	51 1/2
Week ending Apr. 4	1,610	15 1/8	14 3/4	1,200	51	50
Week ending Apr. 9	400	15	15	420	49 3/4	49
Week ending Apr. 18	1,550	15 3/4	14	1,732	50	48
Week ending Apr. 25	430	15 5/8	15	540	51	50

#### REORGANIZATION OF AN AKRON COMPANY.

IN the process of dissolving the Combination Tire and Supply Co. incorporated under New York laws in September, 1902, with a capitalization of \$100,000, the assets of the company were sold to the highest bidder on April 13, at the law offices of Otis & Otis, in Akron. Difficulties encountered by the original company made dissolution advisable and the assets, consisting of tools, etc., were sold to W. S. Franks as trustee for the stockholders. A new company, to be capitalized at \$25,000, probably, and incorporated under Ohio laws, will soon be formed. The company will push the combination tire invented by W. R. Harris, fully described in THE INDIA RUBBER WORLD for December, 1902. The dissolving company never actively began manufacturing.

#### AN ELASTIC WEBBING COMBINE.

OUR Akron correspondent writes: "F. M. Atterholt returned on April 22 from New York, where he met gentlemen interested in the merging of the principal elastic webbing interests. Mr. Atterholt authorized the statement that Holland bankers are arranging to float the bonds of the merger company, which will have a capitalization of \$5,000,000. Details of the consolidation plan are not announced, but it is stated that fourteen concerns are interested. These are located in Rhode Island,

Massachusetts, New York, and Connecticut. Mr. Atterholt has had wide experience in combining interests in different lines of manufacturing."

#### ANOTHER RUBBER FACTORY AT ASHLAND, OHIO.

THE Comet Rubber Specialty Co. have organized to do business at Ashland, Ohio, as a partnership, although incorporation papers may be taken out later. The officers are: Frank J. Ward, president and manager; J. J. Dildine, superintendent; and A. Goss, secretary; O. P. Kintz, treasurer. Mr. Dildine is the practical man of the company, having formerly been in the employ of The B. F. Goodrich Co. The Comet company will begin business in temporary quarters, but plans are making for the erection of a two story building 60 X 100 feet, for their occupancy. Druggists' sundries and specialties will be manufactured.

#### INCREASE OF CAPITAL.

THE Rubber Trading Co., No. 38 Murray street, New York, organized in March, 1902, to trade in crude rubber, at a meeting on April 25, arranged for the increase of their capital to \$100,000, which has been fully paid in.

#### NEW RUBBER FACTORY IN INDIANA.

THE organization was completed at a meeting held at Marion, Indiana, on April 17, of a new company, formed to engage in the manufacture at that place of rubber goods and insulated wire. A large factory is projected, though a site had not been chosen at last accounts. Among those interested in the undertaking are Edward Stewart, G. A. Southall, Hiram Beshore, William Charles, Henry Smith, and R. E. Lucas. The latter was formerly secretary of the Indiana Insulated Wire and Rubber Co., of Jonesboro. The capital of the new concern, \$100,000, is reported to have been fully subscribed.

#### RUBBER GOODS MANUFACTURING CO.

THE following is a record of transactions in shares on the New York Stock Exchange since the last report in these columns:

DATES	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Mar. 28	1,246	26 1/2	25	510	78	77
Week ending Apr. 4	6,350	25 1/2	23 1/8	825	79	77 1/2
Week ending Apr. 9	4,000	26 3/4	24 1/2	100	79	79
Week ending Apr. 18	4,500	25 3/4	23 1/2	389	79	77 1/2
Week ending Apr. 25	4,950	26 1/8	25	1,080	82	79

#### THE HASKELL GOLF BALL SUITS.

SUITS have been brought against A. G. Spalding & Brother, the Kempshall Manufacturing Co., the Swift Flyer Golf Ball Co., and Patrick Brothers, for infringement of the Haskell patent on the rubber cored golf ball. The cases are pending in the United States circuit court for the southern district of New York. The suits are brought in the name of the Haskell Golf Ball Co., and The B. F. Goodrich Co., their licensees, who make and sell the ball on royalty. The plaintiffs, through the law firm of Richardson, Herrick & Neave (New York), have opened proof, and two of the defendants, Spalding & Brother and the Kempshall company, have filed their answers and are taking testimony before Commissioner John A. Shields, clerk of the court. The answers on file, besides a general denial of any obligation to the plaintiffs, only outline the defence in a broad manner. A decision is not to be expected until the early fall.

#### CONCORD RUBBER CO. LIQUIDATING.

THE factory of this company at Concord Junction, Massachusetts, was permanently closed on April 15, the company having previously notified the trade and their shareholders of a decision to go into liquidation. The company was incorpo-



rated under the laws of Maine in the summer of 1899 with an authorized capital of \$500,000, of which it is understood that \$145,000 was paid in. An extensive plant was acquired, which had previously been used for other manufacturing purposes, and equipped with rubber machinery with a capacity for 5000 pairs of rubber shoes per day. The decision to go out of business was arrived at only a few weeks ago, when it was determined by the management that the business could not be successfully conducted without reorganizing the company and introducing new capital, which course, in the present condition of the trade, was not deemed advisable.

#### RUBBER SUPPLIES FOR THE POSTAL SERVICE.

THE postoffice department at Washington advertises for bids, up to May 4, for supplies for the department and the postal service for the fiscal year beginning July 1, 1903, including the following items of rubber goods;

- 6000 pounds Rubber Bands (in  $\frac{1}{2}$  pound boxes)—250 pounds No. 11; 1500 pounds each Nos. 14 and 16; 500 pounds No. 19; 1000 pounds No. 31.
- 400 boxes Bevel Erasers, 20 in a box.
- 3 gross "Comet" Erasers.
- 250 Typewriter Erasers, bevel, 1 dozen in a box.
- 200 Typewriter Erasers, round.
- 120 Stamping Pads, 8"  $\times$  12"  $\times$  1" and 12"  $\times$  16"  $\times$  3/8".
- 1000 Stamping Pads composition rubber, muslin faced, 6"  $\times$  12"  $\times$  1/8".
- 3500 Hand-dating Stamps, with type for dates, etc.
- 50 "Model Dater" Stamps.
- 1540 Line Daters.
- 100 Band Numberers.
- 900 Hand Indexes.
- 150 Fac-similes of Signatures.
- 50 Self-inking Stamps.
- 1000 Dating Stamps with canceler.
- 6700 Dating Stamps for registry department.
- 1500 Rubber Type—dates.
- 26,375 Hand Stamps.
- 360 Stamps, self inking.
- 4000 Dating Stamps for money order business.
- 24 Self-inking Stamps for money order business.
- 8000 Rubber type—dates for money order business.
- 800 pounds Bands, for money order business.
- 1 gross Finger Cots, for money order business.
- 15,000 Rural Free Delivery Stamps.

#### TRADE JOURNAL ADVERTISING.

MANUFACTURERS who seek business through the medium of the trade and technical journals are invited to write for a free copy of a booklet "Advertising for Profit," published by the Manufacturers' Advertising Bureau, No. 126 Liberty street, New York, established for more than twenty years, and whose present proprietor, Benjamin R. Western, was for many years a successful publisher of technical journals.

#### TRADE NEWS NOTES.

THE report that the old Kennebunk Mill at Athol, Massachusetts was to be started up at once as a large rubber factory with \$100,000 capital, employing over 100 hands, is a bit of newspaper enterprise emanating from Worcester which is very interesting, but has no basis of fact.

=The Superior Rubber and Manufacturing Co. (Cuyahoga Falls, Ohio), have begun work, making dipped goods, and are reported to be planning to make hard rubber goods.

=The Fisk Rubber Co. (Chicopee Falls, Massachusetts) are enlarging their tire factory and will increase their working force.

=The contract for the buildings of the Milwaukee Rubber Works Co. has been awarded to George Possen, of Milwaukee.

=Frederick T. Ryder, secretary of the Boston Rubber Shoe Co., has been appointed trustee of the wholesale boot and shoe house of N. Greenfelder & Co., one of the largest concerns of the kind in Chicago, who made an assignment on April 15.

=Suit has been filed against the Milwaukee Patent Puncture Proof Tire Co., and W. D. Halsted (secretary and treasurer) and the other members of the company, by the patentees of the tire which the company was formed to exploit, alleging that the defendants had failed to pay in the amount of capital promised in the original agreement, the object of the suit being to compel the payment of the full amount. The company, though formed several years ago, have not been engaged actively in business.

=J. C. Wilson, secretary of the Hartford Rubber Works Co., has been appointed assistant manager of all the tire making companies comprised in the Rubber Goods Manufacturing Co. that are under the control of Lewis D. Parker as president and general manager. Mr. Wilson has had charge of the Morgan & Wright plant, at Chicago, for some months past. His headquarters will remain at Hartford.

=Robinson & Tallman, crude rubber brokers, New York, on April 20, removed their offices from No. 60 Broad to No. 64 Stone street.

=The Home Rubber Co., Trenton, New Jersey, have just rented a large two-story brick building, of modern mill construction, which will be used for a general storehouse.

=The Crescent Belting and Packing Co., Trenton, New Jersey, are still adding to their already large plant, the latest building being a large three-story brick structure.

=Mr. Alexander M. Paul, manager of the Boston Woven Hose and Rubber Co., started at the first of last month for a tour of the company's agencies in all the large cities of the country, with the idea of spending considerable time in San Francisco, and on the Pacific coast. He is accompanied by Mrs. Paul.

=The annual meeting of the Consolidated Rubber Tire Co. will be held in Jersey City on Monday, May 4.

=Mr. H. W. Heasley, who for a number of years had charge of the cost department of The B. F. Goodrich Co.'s plant at Akron, has accepted a position with the Republic Rubber Co., at Youngstown, Ohio, as manager of the cost department.

=The exclusive sale of the Beacon Falls Rubber Shoe Co.'s boots and shoes for Virginia and certain neighboring territory is controlled by the Craddock-Terry Co., of Lynchburg, Va. Their sale in western Missouri, and in the states of Kansas, Nebraska, and Colorado, is in the hands of the McCord Rubber Co., of St. Joseph, Mo.

=The Marlboro Wringer Co. (Marlboro, Massachusetts), incorporated April 5, 1903, under Maine laws, with \$10,000 capital, will make mop wringers and not clothes wringers.

=W. C. Coleman, broker in old and new scrap rubber, whose headquarters have heretofore been in New England, has decided to make his business headquarters in New York and will remove his main office there May 1.

=W. T. Dale, whose projected golf ball enterprise, the Cambridge Manufacturing Co. (Southington, Connecticut), was mentioned in the last INDIA RUBBER WORLD, has asked the town authorities for an abatement of taxes for ten years, which will be granted in the event that 300 or 400 hands are employed, as promised.

=R. L. Dorr, who for several years was assistant to A. H. Brown, as purchasing agent of the Boston Rubber Shoe Co., has been appointed to succeed the latter, who lately was made purchasing agent for the United States Rubber Co., in New York.

=The Picher Lead Co., manufacturers of blue lead, announce the removal of their Chicago office, on May 1, to more convenient and commodious quarters in the Tacoma buildings, La Salle and Madison streets.

=The National India Rubber Co. (Bristol, Rhode Island) have completed an outfit of yachting shoes for the officers and men of the *Reliance*, to be worn during the Cup races.

=The incorporation is reported of the Montreal Rubber Co., Limited, with \$20,000 capital, to acquire the business of the Montreal Rubber Co., manufacturers of waterproof garments, now carried on at Toronto. The main business of the new company will be conducted at the same place.

=Leonard J. Lomasney has been elected vice president and general manager of the Republic Rubber Co., Youngstown, O.

=Poel & Arnold, importers of crude rubber, on May 1 removed their New York offices from No. 67 Pine street to the Wallace building—Nos. 56-58 Pine street.

=The Milford Rubber Co. (Milford, Massachusetts), waterproofers for the trade, by an inadvertence, were mentioned in the last INDIA RUBBER WORLD as being about to go into the manufacture of garments. Such is not their present intention.

#### POPE SECURES THE BICYCLE TRUST.

ON April 27 an order was made in the United States circuit court at Trenton, New Jersey, directing the receivers of the American Bicycle Co., who have been in charge since September, 1902, to accept an offer of \$3,500,000 made by the reorganization committee of the creditors headed by William A. Read. This offer relates to the personal property of the American Bicycle Co., but not the real estate holdings. The offer comes from the new Pope Manufacturing Co., the incorporation of which, under New Jersey laws, was reported in the last INDIA RUBBER WORLD. There will be conveyed, under the court order above mentioned, the stock and properties of the American Bicycle Co., including those of the subsidiary companies, the American Bicycle Manufacturing Co., the International Motor Car Co., the Federal Manufacturing Co. and the National Battery Co., besides 75 per cent. of the Barwest Coaster Brake Co., and \$147,000 in the American Wood Rim Co. It is understood that Colonel Albert A. Pope—the former successful manufacturer of the "Columbia" bicycles and proprietor of the Hartford Rubber Works—will at once assume direction of the reorganized bicycle business, while holding himself in readiness to enter the automobile manufacture as the conditions of the trade may warrant. In the petition to the court on which the above order was granted, it was stated that since the appointment of receivers the American Bicycle Co. had made and sold 250,000 bicycles at a profit.—Albert A. Pope was born in Boston in 1845; he went to the war at the age of 18, and later became a successful manufacturer of novelties. In 1877 he had a bicycle built in Boston, on plans obtained from an English maker, and learned to ride it. That year he began to import bicycles, which he sold in his novelty store in Boston. In another year bicycles were being made in America, by the Pope Manufacturing Co. Two years later this company owned a majority of the bicycle patents then operative in the United States. While his business was growing rapidly he was not without active competition—from such men as Gormully, Jeffrey, Overman, and others who became notable in the trade, but Pope was the biggest bicycle advertiser in the trade, and the name of his wheel, the "Columbia," became a household word. It was always Colonel Pope's policy to control the manufacture of all the parts of his products, to which is due his purchase of the Hartford Rubber Works, as well as tube works and other factories, all of which, under his direction, proved profitable. All told, his success has been more marked than that of any other figure in the bicycle trade. He was an important holder of the securities of the American Bicycle Co., which absorbed his together with nearly 40 other plants, with a capitalization of \$40,000,000, in 1899, and when the big company became em-

barrassed his was the hand that guided the plan of reorganization. To-day, at the age of 58, he finds himself in practical control of the bicycle industry in this country—a good illustration of the law of the survival of the fittest. It will be interesting, by the way, to look for his reëtrance into the rubber tire manufacturing field.

#### A DECREASE IN RUBBER STEALING.

SAID a prominent rubber manufacturer recently: "Rubber stealing certainly is on the decrease, and I think because the manufacturers have been awakened to the fact that in the past they all have, unknown to themselves, been considerable losers. Two years ago I had a lot of 1300 pounds of crude rubber offered me which I was sure was stolen; to-day such an amount at one offering is unknown. We certainly have some one to thank for this improvement."

#### SOUTHERN TRADE OF THE EUREKA FIRE HOSE CO.

PHIL C. CLARK, who has been actively engaged in the fire hose business for eighteen years, has secured the exclusive agency of the Eureka Fire Hose Co. (New York) for the sale of its brands of fire hose in the territory consisting of Texas, Louisiana, Oklahoma, and the Indian Territory. Mr. Clark is an ex-fireman and a veteran of the civil war. He will have headquarters part of the time in Texas, and at New Orleans.

#### SALE OF SEAMLESS RUBBER CO. STOCK.

ON March 31 at New Haven 172 shares of the Seamless Rubber Co. were offered at a sheriff's sale to satisfy a judgment obtained by the New York Commercial Co. against Earle Brothers, growing out of a transaction in crude rubber seven years ago. These shares were attached at the beginning of the litigation, which has been carried through all the courts up to the United States circuit court of appeals at Hartford, which twice rendered a decision. The par value of the shares is \$100; the price realized, allowing for accrued dividends, was \$116, the only bidder being the New York Commercial Co. A second sale, to satisfy another and similar judgment, took place on April 18, when 174 shares were offered, held part in the name of Joseph P. Earle and part by Earle Brothers.

#### NEW INCORPORATIONS.

RELIANCE Rubber Manufacturing Co., April 6, 1903, under New Jersey laws; to manufacture rubber novelties; capital, \$25,000. Incorporators: Albert W. Lee (40 shares), John W. Burd (20 shares), Ezra Evans (40 shares), Charles O. Joslin (40 shares), W. Holt Apgar (20 shares).

=J. E. Davis Rubber Works Co. (Buffalo, N. Y.), April 24, under New York laws; capital \$100,000. Incorporators: J. Edwin Davis, Marian Davis, and William F. Stearns—all of Buffalo. Mr. Davis, the head of the new enterprise, recently sold his interest in the American Belting Co. (Youngstown, Ohio) to capitalists in that town, and has arranged to enter into the manufacture of mold work and specialties in the line of mechanical rubber goods at Buffalo.

=Purete Rubber Co., April 6, 1903, under New Jersey laws, to make rubber goods; capital, \$25,000. Incorporators: Charles B. Elliott, Mary S. Ostrom, James Ostrom. Principal offices: Menlo Park, New Jersey. Charles B. Elliott, president and treasurer, advises THE INDIA RUBBER WORLD that the new company will manufacture pure gum dress shields, golf balls, and India Rubber and Gutta-percha sundries.

=Woven Wire Rubber Co., March 30, 1903, under New York laws; capital, \$200,000. Incorporators: Webster Bishop, Union Square Hotel; Frank F. Bailey, No. 52 Broadway; Charles W. Zaring, No. 20 Broad street—all in New York city.



## PERSONAL MENTION.

MR. GEORGE P. WHITMORE, secretary of the Boston Belting Co., will, by the time this is in type, have graduated from the Appendicitis class at the Massachusetts General Hospital. His many friends throughout the trade will be delighted to know that he comes out of his brief illness in good health and spirits.

=Mr. R. A. Lowenthal, of the U. S. Rubber Reclaiming Works, has recently returned from a midwinter outing in the Mediterranean.

=The term of Mr. Frederick M. Shepard (president of the Goodyear Rubber Co.), as a member of the Essex County (New Jersey) Park Commission, expiring this year, a lively interest was felt in "The Oranges" over the filling of the vacancy, for which there were several candidates. On April 13 Mr. Shepard was reappointed, by Chief Justice Gummere, of the supreme court.

Mr. C. S. Sanxay, second vice president of the New York Rubber Co., is at the Long Island Hospital (New York), quite ill with nervous trouble.

## "A HORSE ON" MR. ELSON.

UNTIL recently, no man in the rubber trade has borne a more spotless reputation as regards strict honesty than has Mr. B. F. Elson, New York agent of the Boston Belting Co., and the act that has shattered the faith of his friends is thus set forth: It seems that during a recent visit to the Boston headquarters, Mr. Elson found it necessary to go to Cambridge. He, therefore, approached the man who for years has had charge of the company's teaming, and inquired if he might use his team, to which a most cordial assent was given. He therefore hurriedly left the building, unhitched a horse, jumped into a buggy and started. About fifteen minutes later a well known customer of the company, who had been engrossed with one of the salesmen, was horrified to find that his horse was missing, and was of two minds, whether to summon the police or call out the fire department. He was prevailed upon to be calm until Cambridge could be telephoned and Mr. Elson's attention secured. This was finally done and the good looking abstractor of other people's horseflesh returned with the animal and with many apologies. Whether Mr. Elson planned to drive straight through to New York or whether he would have returned anyway is a question that his friends claim is still unsettled. The matter is still further complicated by the statement of the head of the teaming department, who claims that he hasn't owned a driving horse in ten years, and that he simply gave Mr. Elson permission to take a truck and a pair of draft horses for his ride. In the meantime the New York agent is kept very busy purchasing a variety of refreshing liquids for the host of friends who, somehow or other, have heard the story.

## THE TEXTILE GOODS MARKET.

APRIL has been a featureless month so far as the demand for textiles from the rubber trade is concerned. There has been very little new business placed by rubber manufacturers, and very little was expected, for the reason that most of them had previously made contracts covering their requirements for the entire year. The demand for goods under contract, however, has been exceedingly good, and fully up to the expectation of the cotton goods manufacturers, all of whom are congratulating themselves that they are now under cover from the high price of cotton.

New rubber manufacturing concerns that are constantly springing up are, of course, looking around for textiles. Among the most prominent of these is the Milwaukee Rubber Works Co. These people have been in touch with the market during

the month for lines which they will consume in the manufacture of mechanical rubber goods. For the benefit of the comparatively small number of concerns that buy their goods as they need them from time to time, THE INDIA RUBBER WORLD can say that the market is extremely firm on the present price basis, with no possibility of lower prices until after the market assumes a more settled position, and it will be possible then to obtain better rates from only those who have had an old supply of cotton on hand.

Since the last issue of this Journal several of the mills of the United States Cotton Duck Corporation have shut down entirely because it was not possible to produce goods from cotton bought at present prices and sell them at the price which consumers are willing to pay. Of course, this has a restricting tendency, and enables sellers to hold their present prices firmly. It is understood that the big corporation has not sufficient raw material to carry it through the season and will be compelled to purchase raw cotton at 10½ cents a pound, or thereabouts. There has been no change in the prices for goods consumed by the manufacturers of rubber boots and shoes.

As an evidence of the importance of the rubber trade to the cotton industry it may be said that the United States Cotton Duck Corporation has been making some important changes and improvements in the manufacture of fabrics. For the purpose of facilitating the production they have been dividing up the work, so as to concentrate the manufacture of rubber goods materials at certain mills.

In regard to the market for raw cotton, there is nothing to say that will encourage the consumer of textiles. There is a division of opinion concerning the present cotton situation. That speculation has much to do with present prices is contended by a certain clique, while it is possible to find many who have been on the cotton fields and declare that there is a pronounced scarcity of the staple. One thing is certain, many of the mills are paying 10½ cents a pound for cotton in the fields, which would seem to refute the contention that speculation is the cause of high priced cotton. In the vicinity of Charlotte and Spartanburg there is a pronounced scarcity of cotton. In some of the flooded districts of Louisiana and Mississippi preparations are reported to be backward. There has been little or no rain in Texas, while some fields in Arkansas have been inundated until within the past week.

The following figures show the price of spot cotton at the various ports at the close of each week during last month:

	New York.	New Orleans.	Liverpool.
April 4.....	10 25c.	9½c.	5 36d
April 11.....	10.65c.	10½c.	5 36d
April 18.....	10 40c.	10½c.	5 40d
April 25.....	10 50c.	10½c.	5 40d

Manufacturers of felting have been driven to the top of their speed for several months, and some of them have been adding to their facilities during the past month in hope to make the deliveries of orders more to the liking of their customers. There have been no changes in the cost of these goods to the rubber manufacturer since the last report.

The matter of cotton duck yarns is not a factor in the market, for the reason that all, or nearly all, of the manufacturers of cotton ducks spin their own yarns. So far as other cotton yarns are concerned, the market this week shows some improvement over the recent past. Prices have not changed and there is a very fair consumption going on among the weavers. The market for cotton fabrics of every description is at the present time in very satisfactory shape, although the rubber manufacturers are having some difficulty in obtaining the advanced price for goods which they have been compelled to ask because of the higher cost of cloth.

## REVIEW OF THE CRUDE RUBBER MARKET.

THE end of the month just closed finds prices of all grades higher than at the beginning of the month, with a firmer tendency of the market. There has been a particularly strong demand for coarse Pará. The arrivals at Pará continue at a rate which lessens gradually the shortage apparent at the beginning of the year as compared with the same months of the previous season, but present indications point to a smaller total output up to June 30 than last year. There was a possibility that, after the reopening of navigation on the Bolivian affluents of the Amazon—which occurred late in February—there might be large receipts of stored up rubber from that source. But the arrivals from there at Manáos showed only a temporary increase, the effect of which on the market was long ago exhausted. Pará arrivals (including Caucho) to April 24 were 25,225 tons; to the end of April last year 26,670 tons.

At the last regular monthly sale at Antwerp, on April 24, the offerings amounted to 297 tons—Uelé strips, and Upper Congo strips and ball, principally—broker's estimations on which were as high or higher than at the preceding sale. It is reported that prices realized were equal to  $3\frac{1}{2}$  to  $4\frac{1}{2}$  cents per pound over the estimations.

New York quotations on April 29 were:

PARÁ.		CENTRALS.	
Islands, fine, new....90	@91	Esmeralda, sausage...68	@69
Islands, fine, old....92	@93	Guayaquil, strip....62	@63
Upriver, fine, new....92	@93	Nicaragua, scrap...67	@68
Upriver, fine, old....98	@99	Panama, slab.....55	@56
Islands, coarse, new...59	@60	Mexican, scrap.....67	@68
Islands, coarse, old...@		Mexican, slab.....55	@56
Upriver, coarse, new...72	@73	Mangabeira, sheet...52	@53
Upriver, coarse, old...@			
Caucho(Peruvian)sheet 59	@60	EAST INDIAN.	
Caucho (Peruvian) ball 70	@71	Assam.....83@84	
AFRICAN.		Borneo.....@	
Sierra Leone, 1st quality 83	@84	GUTTA-PERCHA.	
Massai, red.....83	@84	Prime, red.....@2.25	
Benguella.....69	@70	Prime, white.....@1.50	
Cameroon ball.....61	@62	Lower grades.....75	@1.25
Gaboon flake.....40	@41	Reboiled, prime.....75	@.90
Gaboon lump.....44	@45	Reboiled, inferior....10	@.25
Niger paste.....20	@21		
Accra flake.....20	@21	Balata, sheet.....63	@65
Accra buttons.....60	@61	Balata, block.....52	@55
Accra strips.....61	@62	Pontianak (in quantities).....@3 $\frac{1}{2}$	
Lopori ball, prime...83	@84	Almeidina.....@8	
Lopori strip, do...81	@82	Tuno gum.....@12	
Ikelemba.....82	@83	Chicle.....@42	
Madagascar, pinky...80	@81		

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine. ....	5\$600	Upriver, fine.....	6\$600
Islands, coarse .....	2\$800	Upriver, coarse.....	4\$900
Exchange, 12 $\frac{3}{4}$ d.			

Last Manáos advices:

Upriver, fine.....	6\$350	Upriver, coarse.....	4\$450
Exchange, 12 $\frac{3}{4}$ d.			

NEW YORK RUBBER PRICES FOR MARCH (NEW RUBBER)

	1902.	1902	1901
Upriver, fine.....	90@93	72@76	83 @86
Upriver, coarse.....	72@74	58@61	59 @60
Islands, fine.....	86@90	70@73	83 @84
Islands, coarse.....	55@58	46@48	45 @50
Cametá, coarse. ..	57@61	48@53	53 $\frac{1}{2}$ @54

In regard to the financial situation Albert B. Beers (broker in India-rubber, No. 58 William street, New York) advises us:

"During April money rates have eased gradually, and during the latter part of the month there has been a moderate demand for the best rubber paper at  $5\frac{1}{2}$  @ 6 per cent., and names not so well known 6 @  $6\frac{1}{2}$  per cent., but during the early part of the month there was very little demand for anything."

## Statistics of Para Rubber (Excluding Caucho).

NEW YORK.					
	Price and Medium	Coarse.	Total 1902.	Total 1901.	Total 1900.
Stocks, February 28....tons	283	16	299	704	695
Arrivals, March .....	1239	432	1671	1407	2012
Aggregating.....	1522	448	1970	2111	2707
Deliveries, March .....	1025	406	1431	1517	1778
Stocks, March 31....	497	42	539	594	920

PARÁ.			ENGLAND.		
	1901.	1902.	1901.	1902.	1900.
Stocks, Feb. 28....tons	30	1030	560	1145	1610
Arrivals, March.....	4030	3115	3923	1455	1190
Aggregating.....	4060	4145	4483	2600	2800
Deliveries, March....	3805	3585	3998	1050	975
Stocks, March 31.	255	560	485	1550	1825

	1901.	1902.	1900.
World's supply, March 31.....tons	4547	5811	5168
Pará receipts, July 1 to March 31. ....	21,211	22,269	20,494
Pará receipts of Caucho, same dates .....	2329	2236	1326
Afloat from Pará to United States, March 31.	1220	1232	1408
Afloat from Pará to Europe, March 31 .....	974	1600	1000

## Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for carload lots—are practically unchanged, as follows:

Old Rubber Boots and Shoes—Domestic.....	7 $\frac{1}{2}$ @ 7 $\frac{3}{4}$
Do —Foreign.....	6 $\frac{3}{8}$ @ 6 $\frac{1}{2}$
Pneumatic Bicycle Tires.....	5 $\frac{1}{2}$
Solid Rubber Wagon and Carriage Tires.....	6 $\frac{1}{2}$
White Trimmed Rubber.....	9 $\frac{1}{2}$ @ 9 $\frac{3}{4}$
Heavy Black Rubber.....	4 $\frac{1}{2}$
Air Brake Hose.....	2 $\frac{7}{8}$ @ 3
Fire and Large Hose.....	2 $\frac{1}{2}$
Garden Hose.....	1 $\frac{1}{2}$
Matting.....	1

## French Congo Rubber.

EXPORTS for 1902 amounted to 679,353 pounds, against 552,002 pounds in 1901. Exports in 1899 amounted to 1,441,530 pounds.

## Rubber Receipts at Manaos.

DURING March and for the first nine months of the crop season [by courtesy of Messrs. Witt & Co.]:

FROM—	MARCH.			JULY-MARCH.		
	1901.	1902.	1901.	1901.	1902.	1901.
Rio Purús.....tons	567	795	745	5040	5914	5276
Rio Madeira.....	200	298	352	2074	2579	2342
Rio Juruá.....	384	505	572	3155	3194	2730
Rio Javary—Iquitos.....	85	198	132	1415	1210	1153
Rio Solimões.....	103	58	43	1208	1450	1182
Rio Negro.....	90	53	94	539	317	397
Total.....	1435	1912	1935	13491	14664	13080
Caucho.....	372	507	797	2139	2393	2356
Total.....	1807	2419	2735	15630	17057	15436

## Liverpool.

WILLIAM WRIGHT & Co. report [April 1]:

*Fine Pará.*—As anticipated in our last, there has been a further advance in prices; during the early part of the month [March] a sharp



rise took place, fine spot advancing from 3s. 8½d. to 3s. 10½d. and forward from 3s. 7d. to 3s. 11d. Under the influence of heavy receipts prices have since declined to 3s. 9½d. spot, and 3s. 9½d. to 3s. 10½d. forward, according to position. Throughout the month the market has been very active, and a large business has been done at current rates, buyers preponderating. The heavy months' receipts are now practically over, and, with smaller supplies and the present good demand, we should not be surprised to see a further advance next month.

ON April 7, at the Liverpool court of bankruptcy, there was a further hearing in the case of Kramrisch & Co., India-rubber merchants, whose difficulties have been mentioned in THE INDIA RUBBER WORLD. The examination, by the official receiver, was directed to ascertaining whether the firm had been getting advances in respect of the same lots of rubber from different bankers, and to locating the goods on which such advances had been made. An order was made by the court requiring accounts to be presented, and the hearing was adjourned to April 28. As stated in our last issue the firms liabilities appear to exceed their assets by about £100,000.

### London.

EDWARD TILL & Co., April 1, report stocks:

	1903.	1902.	1901.
LONDON			
Pará sorts..... tons	—	—	—
Borneo.....	26	132	172
Assam and Rangoon.....	3	39	21
Other sorts.....	188	438	640
Total.....	217	609	833
LIVERPOOL			
Pará.....	1548	1821	1346
Other sorts.....	760	896	1343
Total, United Kingdom.....	2525	3326	3522
Total, March 1.....	1930	3078	2989
Total, February 1.....	1921	2674	3129
Total, January 1.....	1582	2794	2901
Total, December 1.....	2083	2525	3061
Total, November 1.....	2337	2602	3040
Total, October 1.....	2464	2802	2846

### PRICES PAID DURING MARCH.

	1903.	1902.	1901.
Pará fine, hard... 3/8. @ 3/10½	Spot 3/0¾ @ 3/1½	1s. 3 6½ a 3 7½	
Do soft... 3/8 @ 3/10	1s. 3 6½ a 3 7½	Up 3/6 @ 3/10½	
Negroh'ds, scrap 3/0½ a 3/1½	2/5 ¾ a 2/7	2/6 @ 2/6½	
Do Islands 2/4 @ 2/5	2	1 11½ a 2/1	
Bolivian ..... No sales.	3/1 @ 3/2	No sales.	

APRIL 17.—The market has been quiet, with little business doing, but prices remain firm and a trifle higher than at the opening of the month. Sales have been made at 3s. 10½d. for fine hard Pará, spot; 3s. 10½d. for 3s. 10¾d. for May June delivery; 3s. 11d. for June-July. Fine soft cure spot sold at 3s. 10d. and Caviana at 3s. 10½d. Peruvians dearer for slab with sales spot and forward up to 2s. 5½d. and buyers, and ball at 3s. ½d. @ 3s. ¾d., fine being quoted buyers at 3s. 10d. At to-day's auctions there was good competition for medium sorts and dearer rates were paid. Madagascar: Fair Majunga, 2s. 4½d.; black coated and dirty, 2s. 3¾d. Mozambique: good red ball, 3s. 4d.; stickless sausage, 3s. 4½d., ditto rather sandy, 2s. 11d. @ 3s. Lamu ball 2s. 11d. @ 3s. Uganda gummy ball, 2s. 3d. Nyassa: Good clean and livery ball, 3s. 6d. @ 3s. 6½d.; fair mixed brown and livery, 3s. ¾d. @ 3s. 4¾d.; good root ball 2s. 9½d.; ditto rather heated, 2s. 6d. Assam: good clean red, 3s. 2¾d.; clean white slightly heated, 2s. 8d.

Cebu.—Sales of 10 cases, fine thin Pará biscuits, 4s. 2½d. @ 4s. 3d.; good clean scrap, 3s. 4¼d. @ 3s. 6¼d.

Balata.—Good rather thick sheet 2s. 5¾d.; mixed inferior block, 1s. 7½d.

### Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Since our report of March 13, there have been two rubber sales. On March 27 there was a sale of 27 tons, sold at an advance of about 2 per cent. over the estimations. At the regular monthly inscription on March 31, when 450 tons were offered, 435 tons

were sold at a further advance of 2 per cent. or a total of 4 per cent. over former valuations. At this sale there were large orders from the United States. The most important lots sold were:

	Estimation.	Sold at.
70 tons Uelé strips.....	francs 8.25	8 65
18 " Aruwin.....	8.70	8 75
11 " Lake Leopold I.....	8.75	8 97½
28 " Lake Leopold II.....	6.00	7.40 @ 7 47½
42 " Upper Congo balls.....	8.60	8 90 @ 9
22 " Mongalla strips.....	5.45	8 90

Besides a small sale of 38 tons to be held on the 17th instant, the regular monthly sale, embracing 297 tons, will be held on April 24.

Referring to the statistical table for March, there will be noticed a decrease in importations during the first three months of the year of 355 tons, but an increase of sales during the same period of 450 tons. The steamer *Albertville* is expected about the 23d of the month, with 30 tons Lopori.

C. SCHMID & CO.

Antwerp, April 1.

### ANTWERP RUBBER STATISTICS FOR MARCH.

DETAILS.	1903.	1902.	1901.	1900.	1899.
Stocks, Feb. 28, kilos	475,538	984,820	781,100	618,800	250,311
Arrivals in March...	428,455	258,131	570,052	416,278	250,081
Congo sorts.....	27,343	28,117	528,795	41,587	189,115
Other sort.....	29	22,013	41,257	83,691	60,966
Aggregating....	903,933	1,242,951	1,351,152	1,035,078	500,392
Sales in March....	632,109	401,273	507,318	300,018	246,823
Stocks, Mch. 31..	271,884	841,678	843,834	735,060	253,569
Arrivals since Jan. 1.	1,146,128	1,501,486	1,573,310	1,776,314	761,945
Congo sorts.....	140,007	148,687	1,465,093	1,475,996	647,211
Other sorts....	17,131	64,802	17,217	300,318	114,712
Sales since Jan. 1.	1,532,340	1,074,520	1,343,515	1,333,245	771,716

### RUBBER ARRIVALS AT ANTWERP.

APRIL 3.—By the *Philippeville*, from the Congo:

Société Coloniale Anversoise..(Est du Kwango) kilos	2,000
Do .....	5,000
Do .....	23 700
Do .....	700
Bunge & Co.....(Société Générale Africaine)	146,600
Do .....	33,000
Do .....	4,000
Do .....	2,500
Do .....	1,100
W. Mallinckrodt & Co.....(Alimaïenne)	8,500
L. & W. Van de Velde .....	55,500
Charles Dethier .....	1,000
G. & C. Kreglinger.....(La Lobay)	2,000
Société A B I R .....	35,200
Société Equatoriale Congolaise.....	5,000
Comptoir Commercial Congolais.....	12,200
Evvard Havenith .....	200
Comptoir des Produits Coloniaux .....	
Do .....	2,200
Do .....	1,600 342,000

### IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

April 1.—By the steamer *Amazonense*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total
Poel & Arnold....	313,000	83,000	122,300	50,800=	570,100
New York Commercial Co.	227,300	42,700	15,500	1,500=	287,000
A. T. Morse & Co.....	38,800	18,000	82,600	600=	140,000
United States Rubber Co.	41,700	7,400	49,800	.....=	98,900
G. Amsinck & Co.....	33,900	7,300	6,000	.....=	47,200
William Wright & Co....	20,300	2,100	22,000	.....=	44,400
Edmund Reeks & Co....	14,800	3,000	7,400	.....=	25,200
Lionel Hagenars & Co..	2,900	.....	2,400	.....=	5,300

Total ... 692,800 164,400 308,000 52,900=1,218,100

April 13.—By the steamer *Dunstan*, from Manáos and Pará:

New York Commercial Co.	339,300	63,200	106,000	3,800	=	521,300
Poel & Arnold.....	253,700	123,600	123,800	12,600	=	513,700
A. T. Morse & Co.....	74,200	12,800	27,000	11,700	=	125,700
United States Rubber Co.	63,800	12,700	54,800	.....	=	131,300
Edmund Reeks & Co....	53,100	6,000	4,400	300	=	63,800
William Wright & Co....	9,800	1,100	23,500	.....	=	34,400
W. H. Crossman & Bros.	9,400	1,700	1,200	.....	=	12,300
L. Hagenaaers & Co.....	3,800	.....	3,700	.....	=	7,500
Thomsen & Co.....	1,700	.....	4,000	1,000	=	6,700
G. Amsinck & Co.....	.....	300	.....	.....	=	300

Total..... 813,800 221,400 348,400 29,400 = 1,413,000

April 23.—By the steamer *Canoe*, from Manáos and Pará:

New York Commercial Co.	45,900	14,600	79,300	.....	=	140,400
United States Rubber Co.	41,600	5,700	54,500	.....	=	101,800
Edmund Reeks & Co....	7,400	1,700	1,900	33,000	=	43,000
William Wright & Co....	.....	.....	5,000	.....	=	5,000
L. Hagenaaers & Co.....	6,400	.....	3,400	.....	=	9,800
A. T. Morse & Co.....	111,700	10,100	69,500	77,500	=	271,100
Poel & Arnold.....	128,000	64,800	70,600	42,300	=	305,700

Total..... 341,000 101,900 284,200 153,700 = 880,800

Note.—The steamer *Havatia* is due at New York on May 1. — R. A. S.

PARA RUBBER VIA EUROPE.

MARCH 25.—By the <i>Celtic</i> =Liverpool:	POUNDS.
Poel & Arnold (Fine).....	48,000
MARCH 30.—By the <i>Campana</i> =Liverpool:	
Poel & Arnold (Fine).....	73,000
MARCH 30.—By the <i>La Savoie</i> =Havre:	
Poel & Arnold.....	10,000
APRIL 2.—By the <i>Oceanic</i> =Liverpool:	
Poel & Arnold (Fine).....	18,500
APRIL 3.—By the <i>City of Washington</i> =Mollendo:	
John M. Parr's Sons (Fine).....	7,000
John M. Parr's Sons (Coarse).....	3,500
New York Commercial Co.....	5,500 16,000

OTHER ARRIVALS AT NEW YORK  
CENTRALS.

MARCH, 25.—By the <i>Segura</i> =Colon:	POUNDS.
G. Amsinck & Co.....	8,000
H. Marquardt & Co.....	6,900
Isaac Brandon & Bros.....	4,200
Roldan & Van Sickle.....	4,300
American Trading Co.....	3,700
D. A. De Lima & Co.....	2,000
Fidanque Bros. & Co.....	2,000
L. N. Chemedlin & Co.....	1,800
Lawrence Johnson & Co.....	1,900
Lazard Freres.....	1,700
E. B. Strout.....	1,000
Dumarest & Co.....	1,500
Piza Nephews & Co.....	1,000
A. Santos & Co.....	900
Silva Bussenus & Co.....	800
Joseph Hecht.....	700
W. R. Grace & Co.....	600
Everett, Heaney & Co.....	300
Kunhardt & Co.....	300 43,600
MARCH 27.—By the <i>Monterey</i> =Mexico:	
Thebaud Brothers.....	3,000
Graham, Hinkley & Co.....	2,000
Harburger & Stack.....	1,000
H. Marquardt & Co.....	800
E. Steiger & Co.....	700
For Hamburg.....	2,500 10,000
MARCH 27.—By the <i>El Mar</i> =New Orleans:	
A. T. Morse & Co.....	4,000
Manhattan Rubber Mfg. Co.....	3,000 7,000
MARCH 31.—By the <i>Altam</i> =Savanilla, etc.:	
G. Amsinck & Co.....	7,000
J. Ferro.....	2,000
Lawrence Johnson & Co.....	1,500
A. D. Straus & Co.....	900
Graham, Hinkley & Co.....	600
C. Wessels Co.....	300 13,800
MARCH 31.—By the <i>Proteus</i> =New Orleans:	
A. T. Morse & Co.....	2,000
Eggers & Heinlein.....	700 2,700
APRIL 1.—By the <i>Titan</i> =Bahia:	
J. H. Rossbach & Bros.....	29,000
APRIL 3.—By the <i>City of Washington</i> =Colon:	
Hirzel, Feltman & Co.....	2,700
A. M. Capen Sons.....	2,300
Fidanque Bros. & Co.....	1,900
Dumarest & Co.....	1,100
Smithers, Nordenholt & Co.....	1,100
H. Marquardt & Co.....	1,000
G. Amsinck & Co.....	1,000
A. Santos & Co.....	700
L. N. Chemedlin & Co.....	300 12,100
APRIL 2.—By the <i>Oceanic</i> =Liverpool:	
George A. Alden & Co.....	4,500
Poel & Arnold.....	4,300 8,800
APRIL 3.—By the <i>El Monte</i> =New Orleans:	
A. T. Morse & Co.....	6,500
Manhattan Rubber Mfg. Co.....	6,500 13,000
APRIL 4.—By the <i>Havana</i> =Mexico:	
F. Probst & Co.....	3,500
W. Loalza & Co.....	1,000
H. Marquardt & Co.....	500
Willard, Hawes & Co.....	800
Graham, Hinkley & Co.....	200 6,000

CENTRALS—Continued.

APRIL 4.—By the <i>Carib</i> =Truxillo:	
Eggers & Heinlein.....	2,800
J. W. Wilson & Co.....	500
H. W. Peabody & Co.....	500 3,700
APRIL 8.—By the <i>Alghayy</i> =Greytown:	
E. B. Strout.....	14,000
A. D. Straus & Co.....	8,500
Andreas & Co.....	2,000
Jimenez & Escobar.....	500
G. Amsinck & Co.....	1,300
Kunhardt & Co.....	800
Lawrence Johnson & Co.....	600
For Europe.....	4,000 31,600
APRIL 8.—By the <i>Belgravia</i> =Hamburg:	
Poel & Arnold.....	8,500
APRIL 8.—By the <i>Coleridge</i> =Bahia:	
Booth & Co.....	13,000
J. H. Rossbach & Bros.....	10,000 23,000
APRIL 9.—By the <i>El Dia</i> =New Orleans:	
Manhattan R. Mfg. Co.....	5,000
A. T. Morse & Co.....	2,500 5,500
APRIL 13.—By the <i>Allianza</i> =Colon:	
L. M. Chemedlin & Co.....	6,500
Hirzel, Feltman & Co.....	5,000
G. Amsinck & Co.....	4,600
Isaac Brandon & Bros.....	3,200
Dumarest & Co.....	2,900
Piza, Nephews & Co.....	2,200
Jimenez & Escobar.....	1,900
A. M. Capen Sons.....	1,800
Eggers & Heinlein.....	1,800
Fidanque Bros. & Co.....	1,400
Everett, Heaney & Co.....	1,000
Kunhardt & Co.....	800
Smithers, Nordenholt & Co.....	500
A. Santos & Co.....	400
W. R. Grace & Co.....	200
H. Marquardt & Co.....	300 34,900
APRIL 13.—By the <i>Canova</i> =Bahia:	
J. H. Rossbach & Bros.....	13,500
APRIL 13.—By the <i>Isanti</i> =Liverpool:	
Otto Meyer.....	2,000
George A. Alden & Co.....	4,000 7,000
APRIL 13.—By the <i>Excelsior</i> =New Orleans:	
A. T. Morse & Co.....	4,000
Eggers & Heinlein.....	500 4,500
APRIL 20.—By the <i>Vigilancia</i> =Mexico:	
E. Steiger & Co.....	4,000
Thebaud Bros.....	3,500
Harburger & Stack.....	2,000
Graham Hinkley & Co.....	800
Samuels Brothers.....	500
H. Marquardt & Co.....	500
J. W. Wilson & Co.....	400
For Hamburg.....	2,500 14,000
APRIL 20.—By the <i>Proteus</i> =New Orleans:	
A. T. Morse & Co.....	6,000
W. Loalza & Co.....	2,500
Eggers & Heinlein.....	2,500
T. N. Morgan.....	500 11,500
APRIL 21.—By the <i>Segura</i> =Colon:	
Hirzel, Feltman & Co.....	6,300
L. N. Chemedlin & Co.....	4,200
Lawrence Johnson & Co.....	2,400
H. Marquardt & Co.....	2,600
G. Amsinck & Co.....	2,000
E. B. Strout.....	1,100
Andreas & Co.....	1,200
Jimenez & Escobar.....	1,700
M. A. de Leon.....	700
Joseph Hecht.....	600
D. N. Carrington & Co.....	800 23,700
APRIL 21.—By the <i>Byron</i> =Bahia:	
Booth & Co.....	10,500
J. H. Rossbach & Bros.....	4,000 20,500
APRIL 21.—By the <i>Valencia</i> =Savanilla, etc.:	
Isaac Brandon & Bros.....	4,000
D. A. De Lima & Co.....	2,500
Lawrence Johnson & Co.....	2,400
Kunhardt & Co.....	1,200
J. H. Recknagel & Co.....	800

CENTRALS—Continued.

G. Amsinck & Co.....	700
J. A. Farrall Bros.....	1,000
A. D. Straus & Co.....	500
For Hamburg.....	200 12,600
APRIL 25.—By the <i>Boie</i> =Liverpool:	
United States Rubber Co.....	7,500
George A. Alden & Co.....	1,500 9,000
MARCH 28.—By the <i>Celtic</i> =Liverpool:	
Poel & Arnold.....	4,500
George A. Alden & Co.....	7,000
United States Rubber Co.....	13,500 54,500
MARCH 30.—By the <i>Campana</i> =Liverpool:	
Otto Meyer.....	7,000
Joseph Cantor.....	4,500 11,500
MARCH 30.—By the <i>Graf Waldersee</i> =Hamburg:	
George A. Alden & Co.....	30,000
A. T. Morse & Co.....	30,000 60,000
MARCH 30.—By the <i>Mitnelonka</i> =London:	
Poel & Arnold.....	44,000
APRIL 2.—By the <i>Oceanic</i> =Liverpool:	
George A. Alden & Co.....	155,000
Poel & Arnold.....	83,000
Otto Meyer.....	9,000
United States Rubber Co.....	7,000
A. T. Morse & Co.....	6,500 260,500
APRIL 6.—By the <i>Umbria</i> =Liverpool:	
George A. Alden & Co.....	13,000
Otto Meyer.....	8,500
Poel & Arnold.....	11,000 32,500
APRIL 7.—By the <i>Kronland</i> =Antwerp:	
A. T. Morse & Co.....	34,000
APRIL 8.—By the <i>Belgravia</i> =Hamburg:	
Poel & Arnold.....	28,100
Otto Meyer.....	33,600
George A. Alden & Co.....	11,500
A. T. Morse & Co.....	7,400
William Wright & Co.....	3,000 82,600
APRIL 9.—By the <i>Tawone</i> =Liverpool:	
George A. Alden & Co.....	7,000
A. T. Morse & Co.....	14,000
United States Rubber Co.....	9,000
Poel & Arnold.....	3,100
W. H. Cummings & Sons.....	5,400 38,000
APRIL 10.—By the <i>Pennsylvania</i> =Hamburg:	
George A. Alden & Co.....	4,000
Poel & Arnold.....	4,500
United States Rubber Co.....	12,000 20,500
APRIL 13.—By the <i>Dona Maria</i> =Lisbon:	
Poel & Arnold.....	44,500
APRIL 13.—By the <i>Zeeland</i> =Antwerp:	
Poel & Arnold.....	150,000
A. T. Morse & Co.....	22,500
United States Rubber Co.....	15,000
William Wright & Co.....	3,000 190,500
APRIL 15.—By the <i>Rhyndael</i> =Antwerp:	
George A. Alden & Co.....	172,000
Poel & Arnold.....	70,000 202,000
APRIL 17.—By the <i>Germania</i> =Liverpool:	
Poel & Arnold.....	81,000
H. A. Gould Co.....	38,600
George A. Alden & Co.....	10,000 168,600
APRIL 20.—By the <i>Etruria</i> =Liverpool:	
Otto Meyer.....	3,000
Poel & Arnold.....	6,000 15,000
APRIL 20.—By the <i>Peninsular</i> =Lisbon:	
George A. Alden & Co.....	7,000
Poel & Arnold.....	70,000
United States Rubber Co.....	65,000 202,000
APRIL 21.—By the <i>Finland</i> =Antwerp:	
George A. Alden & Co.....	270,000
Poel & Arnold.....	45,000 315,000
APRIL 22.—By the <i>Georgie</i> =Liverpool:	
United States Rubber Co.....	7,000



## EAST INDIAN.

	POUNDS.
MARCH 30.—By the <i>Philadelphia</i> =London:	
Poel & Arnold	11,500
H. A. Gould Co.	3,500
15,000	
APRIL 17.—By the <i>Germanic</i> =Liverpool:	
Poel & Arnold	9,000
APRIL 20.—By the <i>Philadelphia</i> =London:	
Poel & Arnold	17,000

## PONTIANAK.

April 20.—By the <i>Hindustan</i> =Singapore:	
George A. Alden & Co.	110,000
J. H. Rocknagel & Co.	160,000
Poel & Arnold	100,000
Robert Brans & Co.	45,000
415,000	

## GUTTA-PERCHA AND BALATA.

	POUNDS.
APRIL 13.—By the <i>Minnehaha</i> =London:	
To order	11,000

APRIL 17.—By the <i>Patricio</i> =Hamburg:	
To order	7,000
APRIL 20.—By the <i>Hindustan</i> =Singapore:	
Robert Brans & Co.	11,000

## BALATA.

MARCH 27.—By the <i>Grenada</i> =Bollivar:	
Thebaud Brothers	8,500
MARCH 27.—By the <i>Minnehaha</i> =London:	
Earle Brothers	2,500
APRIL 13.—By the <i>Minnehaha</i> =London:	
Earle Brothers	4,500

## CUSTOM HOUSE STATISTICS.

## PORT OF NEW YORK—MARCH.

Imports:	POUNDS.	VALUE.
India-rubber	5,398,344	\$3,002,089
Gutta-percha	24,654	12,150
Gutta-jelutong (Pontianak)	1,525,484	38,889
Total	6,948,482	\$3,052,638

## Exports:

India-rubber	15,755	\$ 9,700
Reclaimed rubber	65,073	8,700
Rubber Scrap Imported	1,421,316	\$87,650

## BOSTON ARRIVALS.

	POUNDS.
MARCH 3.—By the <i>Sachem</i> =Liverpool:	
Poel & Arnold—African	1,615
MARCH 17.—By the <i>Sagamore</i> =Liverpool:	
Poel & Arnold—African	13,561
MARCH 18.—By the <i>Cestrian</i> =Liverpool:	
Otto Meyer—Central	2,917
MARCH 27.—By the <i>Devonian</i> =Liverpool:	
George A. Alden & Co.—African	2,570
Total imports	20,263

[Value, \$10,988]

## GUTTA-PERCHA

MARCH 30.—By the <i>Cambrian</i> =London:	
C. H. Arnold & Co.	13,033

## MARCH EXPORTS OF INDIA-RUBBER FROM PARA (IN KILOGRAMS).

1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Emok, Schrader & Co.	101,660	35,360	77,060	—	214,080	243,676	23,515	38,790	82,553	388,534	602,614
Frank da Costa & Co.	81,624	13,372	138,666	1,240	234,902	59,630	7,128	19,224	—	85,982	320,884
Adelbert H. Alden	13,870	5,330	21,206	—	40,406	13,560	900	1,920	1,486	18,166	58,572
Neale & Staats	—	—	18,800	—	18,800	6,879	1,170	542	53,773	62,364	81,164
Denis Crouan & Co.	14,384	1,507	14,615	—	30,506	5,082	846	12,940	—	18,874	49,380
R. Suarez & Co.	—	—	—	—	—	11,866	691	2,591	14,201	29,340	29,349
Pires, Teixeira & Co.	6,536	327	6,654	—	13,517	6,787	223	4,643	—	11,653	25,170
Sundry small shippers	16,980	2,380	2,162	522	22,044	8,831	595	10,652	—	20,078	42,122
Direct from Iquitos	—	—	—	—	—	20,386	3,382	14,755	41,291	79,814	79,814
Direct from Manãos	759,611	198,308	186,062	90,358	1,234,339	713,829	102,815	157,701	330,851	1,305,196	2,539,535
Total for March	994,665	256,584	465,225	92,120	1,808,594	1,090,826	141,265	263,764	524,155	2,020,010	3,828,604
Total for Jan.-Feb.	1,844,753	447,286	1,273,043	361,513	3,926,595	2,160,364	271,912	543,129	676,125	3,651,530	7,578,115
Total, July-December	2,724,574	649,906	2,172,215	78,623	5,625,318	4,011,602	609,423	1,113,862	500,474	6,235,361	11,860,679
TOTAL, CROP YEAR	5,563,992	1,353,776	3,910,483	532,246	11,360,497	7,262,792	1,022,600	1,920,755	1,700,754	11,906,901	23,267,398

## OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
February, 1903	4,846,439	320,389	4,526,050	February, 1903	4,365,312	2,531,200	1,834,112
January	5,881,341	191,006	5,690,335	January	5,278,784	4,229,344	1,049,440
Two months, 1903	10,727,780	511,395	10,216,385	Two months, 1903	9,644,096	6,760,544	2,883,552
Two months, 1902	9,621,307	492,495	9,128,812	Two months, 1902	11,242,442	5,225,248	6,017,200
Two months, 1901	8,513,064	598,780	7,914,284	Two months, 1901	10,115,056	4,727,632	5,387,424
GERMANY.				ITALY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
February, 1903	2,554,200	990,460	1,563,740	February, 1903			
January	3,012,020	1,161,360	1,850,660	January			
Two months, 1903	5,566,220	2,151,820	3,414,400	Two months, 1903			
Two months, 1902	4,695,460	1,711,160	2,984,300	Two months, 1902	310,640	42,240	268,400
Two months, 1901	4,176,260	885,940	3,290,320	Two months, 1901	318,120	46,420	271,700
FRANCE.*				AUSTRIA-HUNGARY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
February, 1903	1,021,020	873,400	147,620	February, 1903	216,260	220	216,040
January	1,378,520	693,880	684,640	January	260,920	220	260,700
Two months, 1903	2,399,540	1,567,280	832,260	Two months, 1903	477,180	440	476,740
Two months, 1902	3,350,380	1,209,340	2,141,040	Two months, 1902	440,220	440	439,780
Two months, 1901	2,324,740	727,100	1,597,640	Two months, 1901	451,880	4620	447,260

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

\* General Commerce.

WILLIAM T. BAIRD, PRESIDENT

ROBERT B. BAIRD, VICE PRESIDENT

# RUBBER TRADING COMPANY

38 MURRAY STREET,  
NEW YORK.

TELEPHONE: 1924 CORTLANDT.

CABLE ADDRESS  
CHAUNBAIR

NEW YORK AND BOSTON

BOSTON OFFICE:

161 SUMMER STREET

TELEPHONE 1599-2 OXFORD

# CRUDE RUBBER

*Mention The India Rubber World when you write.*

## THE MANUFACTURED RUBBER CO.

MAIN OFFICE:

WORKS: METUCHEN, N. J.  
PENNSYLVANIA R. R.

828 DREXEL BUILDING,  
PHILADELPHIA.

MANUFACTURERS OF

RECLAIMED AND SUBSTITUTE RUBBER.

OUR SPECIAL BRANDS OF SHEETED RUBBER, WHICH ARE SUPERIOR

FOR MOLD AND PRESS WORK, ARE THE "FOREIGN,"

"DOMESTIC" AND "MEDIUM."

ALSO A SPECIAL PLANT FOR THE MANUFACTURE OF CHLORIDE OF SULPHUR.

*Mention The India Rubber World when you write.*

Rubber Manufacturers desiring the best lead pigment will find Sublimed White Lead most satisfactory for Standard Tire Stocks—and for all other Stocks where toughness and resiliency is desirable and necessary.

For samples and prices address

## PICHER LEAD CO.,

FOR THE EAST:

100 WILLIAM STREET,  
NEW YORK.

FOR THE WEST:

WESTERN UNION BUILDING,  
CHICAGO.

*Mention The India Rubber World when you write.*





# Best Made.

*Mention The India Rubber World when you write.*

## HOLDEN, LEONARD & CO.,

72 LINCOLN ST. BOSTON.

Rain-proof  
Cloths  
in large variety  
of fabrics and  
styles.



New plant  
completed.  
Cloths treated  
for the  
trade.

CORRESPONDENCE INVITED.

*Mention The India Rubber World when you write.*

## Milford Rubber Company,

**PROOFING HEADQUARTERS** for

**TRIPLEX GOODS** such as **COTTON COVERTS DUCKS**, etc. Also all kinds of **DOUBLE AND SINGLE TEXTURE GOODS** skirt bindings, etc. : : :

Office: No. 65 ESSEX STREET, BOSTON.

Factory: Milford, Mass.

*Mention The India Rubber World when you write.*

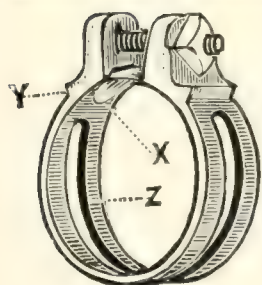
## Conant Rubber Co.,

### DRESS SHIELDS, NURSERY and HOSPITAL SHEETING.

Offices; No. 170 PURCHASE STREET, BOSTON.

Factory: SOUTH FRAMINGHAM, MASS.

*Mention The India Rubber World when you write.*



**Verdon's Improved  
Double Hose Band....**

**SIMPLE, STRONG, SURE.**

Send for Sample and Prices.

**WILLIAM YERDON, - Fort Plain, N. Y.**

*Mention The India Rubber World when you write*

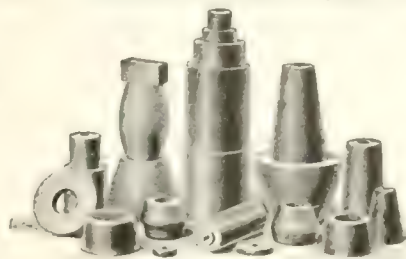
**"ALL ABOUT INDIA-RUBBER AND GUTTA-PERCHA"**

PUBLISHED BY FERGUSON, IN CEYLON.

\$1.75, prepaid, at THE INDIA RUBBER WORLD office.

**"Nerv-eze" Rubber Heels Ease the Nerves.**

Mechanical  
Goods,  
Mold and  
Press Work.



Proffers  
of Cloth  
For the  
Trade.

**ELECTRICAL and BICYCLE TAPE**

Manufactured by

**PLYMOUTH RUBBER CO.,**

STOUGHTON, MASS.

BOSTON: 503 Washington Street.

NEW YORK: 46 East 14th Street

*Mention the India Rubber World when you write.*



**D. C. HALL & CO.,**

86 LEONARD ST., NEW YORK.

MANUFACTURERS OF

**WATERPROOF STOCKINET,**

**DIAPER SHIELDS, BIBS,**

**SHEETS and SHEETING,**

**BATHING CAPS,**

**HATS and HOODS.**

**DRESS SHIELDS, Etc.**

... THE ...  
**SUBMARINE**

PATENTED

Will Positively Keep the Hair Dry.

*Mention The India Rubber World when you write.*

## SYRINGE BOXES

OF WHITE WOOD, BASS, OAK, ASH, &c

FINE WORK. LOW PRICES PROMPT SHIPMENT.

*Estimates and Samples Furnished on Application.*

ALSO ANY OTHER KIND OF

**FANCY WOOD BOXES MADE TO ORDER**

Extensive Facilities enable us to Guarantee Satisfaction.

**Henry H. Sheip Mfg. Co.**

1702-10 RANDOLPH ST., - PHILADELPHIA, PA

*Mention The India Rubber World when you write*

## The Atlas Chemical Co.

NEWTONVILLE, MASS.

MANUFACTURERS OF

**SULPHURET OF ANTIMONY**

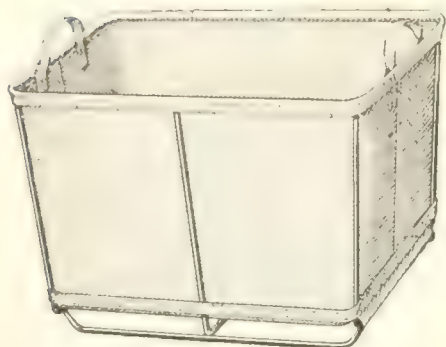
**FOR THE RUBBER TRADE.**

*Mention the India Rubber World when you write*



# The Morris Spring Bottom Duck Baskets.

PATENTED.



Note the advantages these baskets have over all others. A perfectly smooth surface inside and out, no splinters, no nails, no screws or corner clips to come loose and injure contents. No bottoms and sides giving way as in fibre, wood or wicker baskets. Think of the repair bills you save. Can you afford to be without them? Write for booklet and price list.



## Morris & Company,

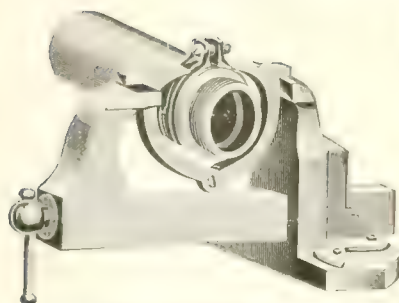
MANUFACTURERS OF COTTON DUCK,

Groveville Mills:

YARDVILLE, N. J.

*Mention The India Rubber World when you write.*

## Specify Sherman Hose Clamps.



Method of applying clamps.



Sherman Brass Hose Clamps may be applied with a screw driver alone but for large sizes and heavy pressure are put on tighter and quicker with bench vise and vise jaws as shown.

Sherman Brass Hose Clamps are made of extra heavy sheet brass. They have no weak places like castings. They do not rust on hose. Make complete circle. Tongue slides in channel and does not dig into hose. Sold by Jobbers.

Made by H. B. SHERMAN MFG. CO.

Battle Creek, Michigan.



Sherman Hose Clamps.

*Mention The India Rubber World when you write.*

## William R. Thropp,

Manufacturer of

Rubber Washers, Grinders and Refiners  
Automatic Jar Ring Lathes.

Hydraulic Steam Presses, Vulcanizers.

Moulds and Special Machinery.

Bicycle Tire Moulds a Specialty.

TRENTON, N. J., U. S. A.

*Mention The India Rubber World when you write.*

## MOULDS

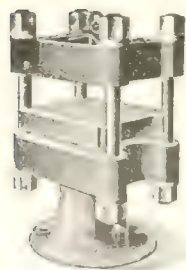
Especially Vehicle Tire Moulds

ALSO

Hydraulic and Hand Presses,  
Ring and Disc Cutting Machinery,  
Tubing Machines, etc.

THE WILLIAMS FOUNDRY AND  
MACHINE CO.,

Akron, Ohio.

*Mention The India Rubber World when you write.*

## W. B. SMITH WHALEY & CO.,

Mechanical and Mill Engineers,

1012 TREMONT BUILDING,

BOSTON, MASS.

1328 MAIN STREET,

COLUMBIA, S. C.

ELECTRIC POWER TRANSMISSION A SPECIALTY.

Parties interested in electric driven machinery

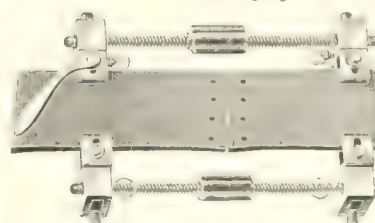
are invited to correspond with our Boston Office.

*Mention The India Rubber World when you write.*

Wherever Belting is used the

PORTER BELT CLAMP

will pay for itself in a very short time.



Cutting Dies,  
Moulds, all kinds  
Roll Engraving,  
Steel Stamps, etc.

THE HOGGSON & PETTIS MFG. CO.,

NEW HAVEN, CONN., U. S. A.

*Mention The India Rubber World when you write.*

# **HARD RUBBER GOODS**

**RODS**

**TUBING**

**SHEETS**

**MOULDED WORK**

---

## **COTTON RUBBER LINED HOSE**

**GARDEN**

**MILL**

**FIRE**

---

## **UNLINED LINEN HOSE**

---

## **MECHANICAL RUBBER GOODS**

**HOSE**

**BELTING**

**PACKING**

**GASKETS**

**SHEETS**

**VALVES**

---

### **JOSEPH STOKES RUBBER CO.**

**TRENTON, NEW JERSEY**



# THE NEW CENTURY RUBBER CO.

MANUFACTURERS OF

## Reclaimed Rubber

**Facilities:** New factory: machinery, our own design. **Quality:** We claim flexibility, strength and durability. The results of twenty five years' practical experience. We guarantee our product to be absolutely free from ingredients that are in any way detrimental to the life of manufactured rubber goods.

WORKS:

EAST BURLINGTON, N. J.

Address all communications to office:

515 DREXEL BUILDING, PHILADELPHIA, PA.

*Mention The India Rubber World when you write.*

ESTABLISHED 1848.

## TOCH BROTHERS,

468-470-472 WEST BROADWAY, - NEW YORK CITY.

MANUFACTURERS OF

## Rubber Colors, Pigments and Chemicals

BRILLIANT TILE RED

GREEN for cold and hot cure

BALLOON RED

BLACK

YELLOW

WHITE

BUFF

BROWN

MAROON

SPECIAL COLORS FOR TILES.

If you want any special color made to order, communicate with us. If you are interested, send to us for copy of the "Chemistry of Raw Materials," which will be mailed to you gratis.

*Mention The India Rubber World when you write.*

## RUBBER FLUX.

OUR Rubber Flux works as its name suggests. It fluxes refractory mill-stocks, increases their capacity for pigment absorption and assists milling to a remarkable degree.

It *prevents blooming* and does not sweat or blow.

Pronounced by experts the most useful and economical rubber substitute ever produced. Has been thoroughly tested and is generally used. Samples sent on application. Address "Rubber Dept."

MASSACHUSETTS CHEMICAL CO.,

170 SUMMER STREET, BOSTON, MASS., U. S. A.

*Mention The India Rubber World when you write.*

## “SPECIAL”

## Zinc Oxide

for the

## Rubber Trade.

The New Jersey Zinc Company,

11 BROADWAY,

NEW YORK.

*Mention The India Rubber World when you write.*

# TYPKE & KING, INDIA RUBBER CHEMISTS, ETC.

OFFICES, 47 WILSON ST., FINSBURY SQUARE, LONDON, ENGLAND.

JOSEPH CANTOR, AGENT IN U. S., WALLACE BUILDING, 56-58 PINE ST., NEW YORK.

## RUBBER SUBSTITUTES,

MADE FROM REFINED RAPE SEED OIL. FREE FROM ACID.

FINE CHEMICALS FOR RUBBER WORKING, GUARANTEED RELIABLE, AND NOT TO VARY.

## CRIMSON & GOLDEN SULPHURETS OF ANTIMONY.

Mention The India Rubber World when you write.

**. PURE .  
SOFT  
SULPHUR**

ESTABLISHED 1841.

INCORPORATED 1897.

**Bergen Port  
Sulphur Works**

ORIGINAL MANUFACTURERS  
OF

**PURE SOFT SULPHUR**

PREPARED ESPECIALLY FOR

**Rubber Manufacturers.**

**T. & S. C. WHITE CO.,**

**28 Burling Slip, NEW YORK.**

Mention The India Rubber World when you write.

**BENZOL**

HEADQUARTERS FOR  
**ALL GRADES**  
of Coal Tar Naphtha and  
Benzol.

Samples and prices on application.

CHEM. DEPT.,

**BARRETT MFG. CO.,**

Philadelphia.

**SULPHUR**

**BROOKLYN SULPHUR WORKS,**  
Manufacturers of

Double Refined and Sublimed  
**FLOUR SULPHUR**

Especially adapted to the use of  
RUBBER MANUFACTURERS  
AND WARRANTED FREE FROM GRIT.

**BATTELLE & RENWICK**

163 Front St., New York.

First Qualities.  Brand.

## ANTIMONY GOLDEN SULPHURET

Always contains same constant percentage  
of Free Sulphur.

Action Ges. Georg Egestorff's Salzwerke,

**Linden, near Hanover, Germany.**

Mention The India Rubber World when you write.

**H. L. TERRY,**

Fellow of the Institute of Chemistry.

**Analytical and Consulting Chemist.**

Is open to be consulted on all matters relating to the  
technology of India-rubber, and to conduct Analyses  
of Rubber Goods.

LABORATORY:

23 HOPWOOD AVE.,  
MARKET PLACE,

**MANCHESTER, ENGLAND.**

**New Process Pitch**  
from

**Long Leaf Pine**

**E. B. WEED & CO., Fayetteville, North Carolina.**

Mention The India Rubber World when you write.

## Chemical Analysis of

Crude materials and Rubber Compounds; Insulating, Waterproofing, Hose,  
Tires, Shoes, Heels, Gaskets, Mats, Bands, Packing, Belting, Unvulcanized, Vul-  
canized, Sulphur, Mineral fillers determined. Substitute Reclaimed Rubber  
stock. [Member Am. Chem. Soc.; M. S. C. I., London; M. D. C. Gesell, Berlin.]

**DURAND WOODMAN, Ph. D.,**

ANALYTIC AND TECHNICAL CHEMIST,

127 PEARL STREET,

NEW YORK

Mention The India Rubber World when you write.

**PHILIP McGRORY,**

TRENTON, N. J.

**Wholesale Dealer in SCRAP RUBBER.**

THE HIGHEST CASH PRICE PAID FOR NEW AND OLD, CURED AND UNCURED  
SCRAP RUBBER OF ALL KINDS.

**Second-Hand Rubber Mill Machinery Bought and Sold.**

Mention The India Rubber World when you write.

**SUBSTITUTES**

and RUBBER MANUFACTURERS'  
SUPPLIES.

THE STAMFORD RUBBER SUPPLY CO.,  
STAMFORD, CONN.

P. CARTER BELL, General Manager  
W. E. GILLISPIE, Treasurer

Mention The India Rubber World when you write.



Established 1880

---

Philadelphia  
Rubber Works  
Reclaimed  
Rubber

Philadelphia  
U. S. A.

---

Foreign Representatives:

For Great Britain

Ruhn & Co.,

31, Lombard Street, London, E. C.

For the Continent

H. P. Moorhouse,

29, Rue des Petites-Écuries, Paris.

ESTABLISHED 1855.

**Geo. A. Alden & Co.,**

IMPORTERS OF

**India Rubber and  
Gutta Percha,****170 SUMMER STREET,  
BOSTON.***Mention The India Rubber World when you write.***BARATA & SALVADOR,****Caixa Postal 380, - MANAOS (Brazil).**

IMPORT AND EXPORT MERCHANTS.

SPECIALTIES IN

**Rubber, Balata, Cocoa,****Plassaba, Hides, Egret Plumes, Balsam of Copaiba,****Andisoba, Tonka Beans, Vanilla, Brazil Nuts, etc.***Mention The India Rubber World when you write.***India=Rubber (Crude)  
OTTO MEYER,**

New England Representative,

**A. T. Morse & Co.,**

New York.

**No. 161 Summer St.,****BOSTON, MASS.**

Telephone: 543 OXFORD.

Cable Address: MYERO.

*Mention The India Rubber World when you write.***GENUINE FOSSIL FLOUR.**

The FOSSIL FLOUR produced and sold by the FOSSIL FLOUR COMPANY is taken from the only known LIVING deposits. It is mined, purified and reduced to an impalpable powder by a process which is the invention of our Company. This process gives our Fossil Flour a soft smooth texture which has never been equalled. To insure getting material free from grit or impurities, reliable for uniform results, order direct from—

**THE FOSSIL FLOUR COMPANY,****No. 229 PEARL STREET, - - NEW YORK.***Mention The India Rubber World when you write.***PEQUANOC RUBBER CO.**

MANUFACTURERS OF

**Pure Reclaimed Rubber**

by an improved mechanical process, without the use of acids, or alkalis. A strictly high-grade superior product, absolutely bone dry, clean and reliable at all times.

**Factory and Office: BUTLER, NEW JERSEY.**

Telephone: 16 Butler.

SAMPLES AND PRICES ON APPLICATION.

*Mention The India Rubber World when you write.***RAYMOND RUBBER CO.,**

MANUFACTURERS OF

**RECLAIMED RUBBER,****OFFICE AND FACTORIES, TITUSVILLE, NEW JERSEY.**

NEW YORK OFFICE,

60 BROAD STREET.

**NEW JERSEY RUBBER COMPANY,**

MANUFACTURERS OF ALL KINDS OF

**RECLAIMED \* RUBBER,****Auxiliary Plant for Trimmings, daily Capacity of 20,000 Pounds. Total daily Capacity 45,000 Pounds.****Office and Factories, LAMBERTVILLE, NEW JERSEY.***Mention The India Rubber World when you write.*



ESTABLISHED 1856.

**WILLIAM SOMERVILLE'S SONS,**3, COOPERS ROW,  
LIVERPOOL, ENGLAND.118-120 JOHN STREET,  
NEW YORK, U. S. A.DEALERS IN  
ALL KINDS OF **SCRAP RUBBER.**CABLE ADDRESS: LIVERPOOL MAYFLOWER.  
NEW YORK SOMERVILLE.CODES: A. B. C.  
LIEBERS.*Mention the India Rubber World when you write.***E. BERS & CO.,**

ESTABLISHED 1890.

CABLE ADDRESS:  
BERSANDO, PHILA.  
CODES, A B C, 4TH ED., AND PRIVATE.NEW YORK HOUSE,  
10½ DESBROSSES ST.

COMMISSION MERCHANTS AND DEALERS IN

**SCRAP RUBBER,**

FOREIGN AND DOMESTIC CORRESPONDENCE SOLICITED.

22 AND 24 So. DELAWARE AVE., PHILA.

*Mention the India Rubber World when you write.***WM. H. CUMMINGS & SONS**  
**BUY AND SELL RUBBER WASTE.**Cable Address, P. O. Box 732,  
UNITMOSQUE

54-56 Harrison Street, New York, U. S. A.

*Mention The India Rubber World when you write.***THEODORE HOFELLER & CO.,**

Nos. 98, 100 and 102 TERRACE, BUFFALO, N. Y., U. S. A.

FOREIGN AND DOMESTIC CORRESPONDENCE SOLICITED. Cable Address, HOFELLER, BUFFALO. A. B. C. and Lieber's Codes Used.

**LARGEST DEALERS IN OLD RUBBER IN THE WORLD.***Mention the India Rubber World when you write.***FEIST STRAUSS,**EXPORTER OF **WASTE RUBBER and OLD GOLOSHES,**IMPORTER OF **RECLAIMED RUBBER.**

Zeil 23, FRANKFORT-ON-MAIN, GERMANY.

Cable Address: "Gutta-Frankfurtmain."

A B C Code, Lieber's Code.

CORRESPONDENCE SOLICITED.

*Mention The India Rubber World when you write.***S. BIRKENSTEIN & SONS**

BUY AND SELL

All kinds of **RUBBER SCRAP**

48-50-52 Michigan St., CHICAGO

*Mention The India Rubber World when you write.***SALOMON BROS. & CO.,**

99 NASSAU STREET, NEW YORK.

All kinds of **RUBBER SCRAP,**

Boots and Shoes, Solid and Pneumatic Tires,

Air Brake Hose, Buffers, Heavy Rubber.

*Mention The India Rubber World when you write.*BOUGHT **O L D R U B B E R** SOLD

CORRESPONDENCE SOLICITED.

**W. C. COLEMAN** 212 SUMMER ST., BOSTON, MASS.

THEO. S. BASSETT, President.  
MAX LOEWENTHAL, Treasurer.

R. A. LOEWENTHAL, Vice President.  
WALTER T. ROSEN, Secretary.

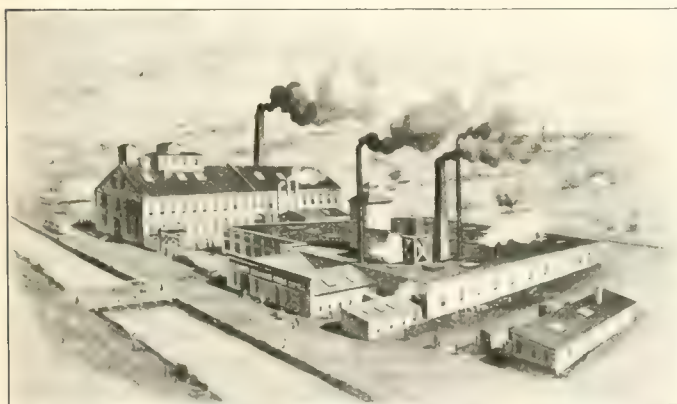
# U. S. RUBBER RECLAIMING WORKS.

## Manufacturers of RECLAIMED RUBBER.

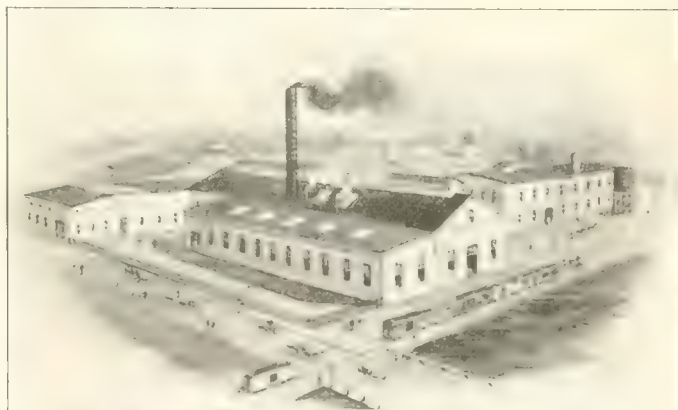
Offices: No. 127 DUANE STREET, NEW YORK.



FACTORY AT BUFFALO, N. Y.



FACTORY No. 1, SHELTON, CONN.



FACTORY No. 2, SHELTON, CONN.

NEW ENGLAND REPRESENTATIVE:

OTTO MEYER, No. 161 Summer Street, Boston.

FOREIGN REPRESENTATIVES:

WM. SOMERVILLE'S SONS, 3, Cooper's Row, Liverpool, England.

Great Britain and the Continent of Europe.

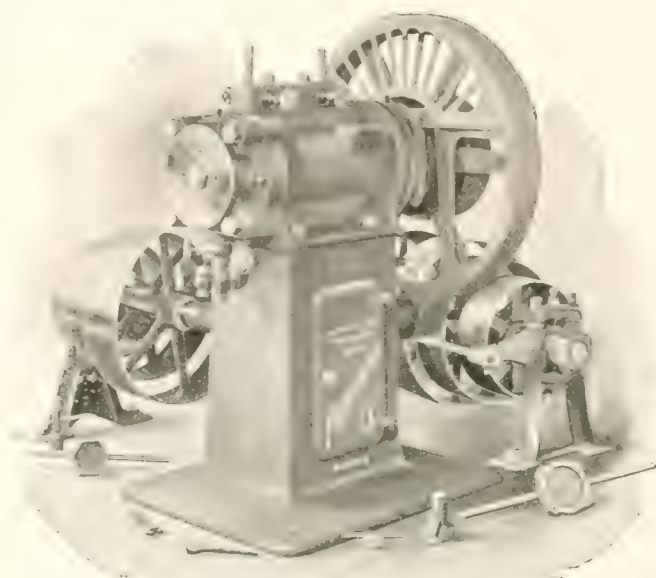
G. BRICE, 92, Rue de la Victoire, Paris, France.

Seul Agent Dépositaire. France and Belgium.

*Mention The India Rubber World when you write.*



# Say! Mr. Rubber Man—



Couldn't you do better work if you could depend absolutely upon your Tubing Machines for a steady and a plentiful flow of Compound? If you had Royle Tubing Machines you'd never worry, for they're an antidote for all the woes that the maker of Rubber Goods is heir to. Write and ask about them, for we have the machine you want.

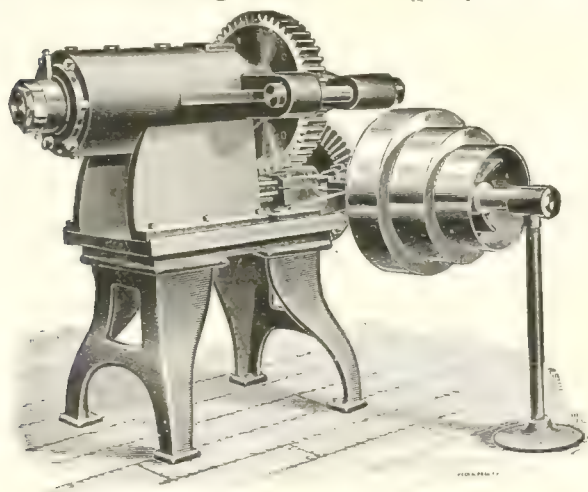
**JOHN ROYLE & SONS, Paterson, N. J., U. S. A.**

*Mention The India Rubber World when you write*

## CLARK'S Reliable Tubing Machine

FOR THE MANUFACTURE OF RUBBER TUBING AND CORD,

And also the Covering of Electrical and Telephone Cables. ||



MANUFACTURED IN 4 SIZES BY

**EDRED W. CLARK, MACHINIST,**

Rubber Moulds and Rubber Machinery, Screw and Hydraulic Presses a Specialty.

No. 31 WELLS STREET, HARTFORD, CONN.

*Mention The India Rubber World when you write.*



### JENKINS BROTHERS' VALVES.

Perfectly tight under all pressures of steam, oils or acids. Warranted to give satisfaction under the worst conditions.

Received the **GOLD MEDAL** at the Pan-American Exposition.

Insist on having the genuine stamped with Trade Mark.

JENKINS BROTHERS, New York, Boston, Philadelphia, Chicago.



## THE MASON Reducing Valves

ARE THE WORLD'S STANDARD VALVES.

For automatically reducing and absolutely maintaining an even steam or air pressure.

*They are adapted for every need and guaranteed to work perfectly in every instance.*

WRITE FOR FULL INFORMATION AND  
QUOTIENT REFERENCES

**THE MASON REGULATOR CO. Boston, Mass., U.S.A.**

### BY RETURN MAIL

Subscribers can learn where to buy any article or class of goods from the manufacturer, publisher or importer per conditions page one, each issue. On trial six months 10 cents. None free under any pretext.

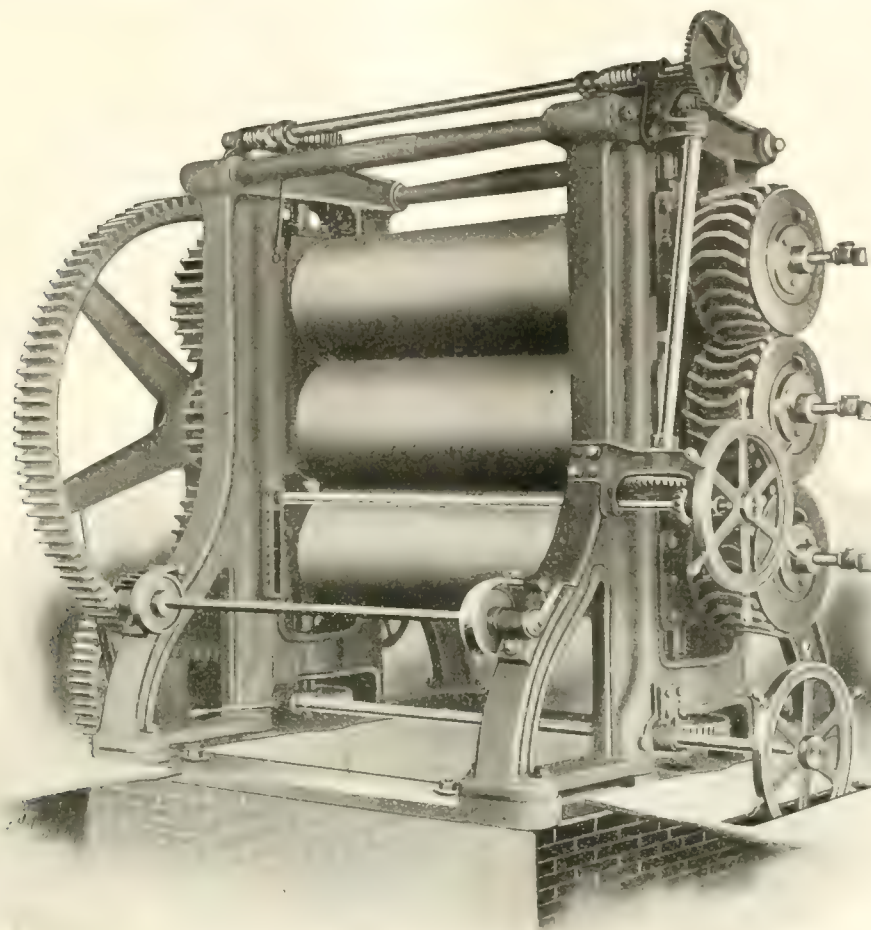
GENERAL INFORMATION, 307 Main St., Binghamton, N. Y.

*Mention The India Rubber World when you write.*

# BIRMINGHAM IRON FOUNDRY,

DERBY, CONN., U. S. A.

Oldest and Largest Makers of RUBBER MILL MACHINERY in the United States



THREE ROLL CALENDER.

**CALENDERS - GRINDERS - MIXERS**  
**WARMERS - WASHERS - REFINERS**  
**HYDRAULIC PRESSES - HOSE MACHINERY**  
**SPECIAL MACHINERY**

*Mention The India Rubber World when you write.*



# AMERICAN TOOL & MACHINE CO.

109 BEACH ST.

BOSTON MASS.

Double and Single End Spreaders,  
Doubling Machines, Churns, Etc.

WRITE FOR CATALOGUE AND PRICES.

*Mention The India Rubber World when you write.**Mention The India Rubber World when you write.*

## Our New 2 Tubing Machine

is provided  
with thrust  
roller bearings  
and cut gears  
and is just  
right for small  
work. . . . .

A. ADAMSON,  
AKRON, OHIO.

Manufacturer of Screw and Hydraulic Presses, Accumulators,  
Jar Ring Lathes, Tubing Machines, Wringer Roll Grinders, Band  
Cutting Machines, Wrapping Machines, Cement Mixers, Molds,  
Steam Traps, etc.

*Mention The India Rubber World when you write.*

## Embossing Calenders

- - FOR - -

Artificial Leather, Table Oil Cloth  
and Carriage Covers.

## Drying Machines

with Copper Cylinders for Cotton Duck,  
Drills and Sheeting.

THE TEXTILE-FINISHING MACHINERY CO.,  
PROVIDENCE, R. I.

*Mention The India Rubber World when you write.*

Handwork is costly  
and inaccurate.

Anything that the hands can do  
can be done by Machinery.

No Problem is too Difficult for us.

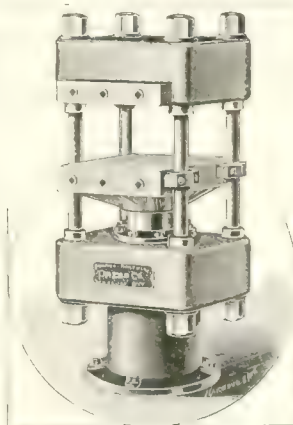
Do you want a Machine for any  
Purpose in Rubber Work?

Write to us and we will Produce it.

WELLMAN SOLE CUTTING MACHINE CO.,  
MEDFORD, MASSACHUSETTS.

A. M. STICKNEY, President.

EDWARD BROOKS, Treasurer.

*Mention The India Rubber World when you write.*

## STEAM PRESS

◆—FOR—◆

MECHANICAL GOODS.

HYDRAULIC OR . . .  
KNUCKLE JOINT.

WRITE FOR PRICES.

BOOMER & BOSCHERT PRESS CO.,  
336 West Water Street,  
SYRACUSE, N. Y.

*Mention The India Rubber World when you write.*

ESTABLISHED 1848.

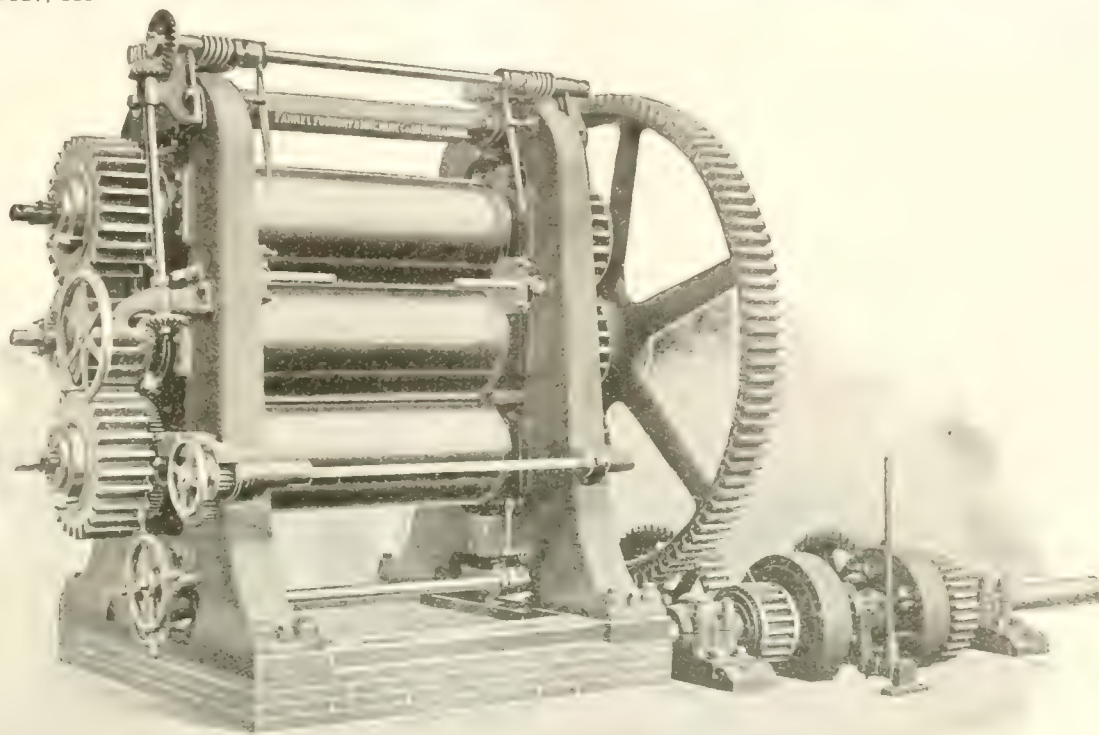
# Farrel Foundry and Machine Co.,

Largest Manufacturers in the World of \_\_\_\_\_

## Rubber Machinery.

FRANKLIN FARREL, PRES  
CHARLES F. BLISS, TREAS  
FRANK E. HOADLEY, SEC

ANSONIA, CONN., U. S. A.



STANDARD THREE ROLL CALENDER.

CALENDERS, GRINDERS, MIXERS, CRACKERS, WASHERS,  
WARMERS and REFINERS.

HYDRAULIC BELT PRESSES, with Hydraulic Stretchers,  
MULTIPLE HEEL and SCREW PRESSES, PUMPS,  
ACCUMULATORS and FITTINGS.

LINOLEUM MACHINERY—Calenders, Grinders, Mixers, etc.  
Cabling, Winding, Spooling and Measuring Machines for Insulated Wire.  
Chilled Iron and Sand Rolls of all sizes, Steel and Wrought Iron Rolls.  
Shafting, Machine Moulded Gearing, Friction Clutches, etc.

*Mention The India Rubber World when you write.*



**\$1,500,000****TEN YEAR 6% FIRST MORTGAGE SINKING FUND****GOLD BONDS OF****THE CONSOLIDATED UBERO PLANTATIONS COMPANY****DUE JULY 1, 1912****INTEREST PAYABLE JAN. 1 AND JULY 1****PRINCIPAL AND INTEREST PAYABLE AT THE****INTERNATIONAL TRUST COMPANY, BOSTON****Bonds issued in Coupon Form With Privilege of Registration as to Principal. Each \$500 Bond Carries with it \$500 of Stock****AS A BONUS****DIRECTORATE**

ARTHUR W. STEEDMAN, *President*, Of the firm of George A. Alden & Co., Importers of India Rubber, Boston, Mass.  
 FREDERIC C. HOOD, *Vice President*, Treasurer of the Hood Rubber Co., Boston, Mass.  
 E. H. NEBEKER, *Treasurer*, Former Treasurer of the United States, Indianapolis, Ind.  
 WILLIAM D. OWEN, *Director*, Ex-Secretary of State of Indiana, Indianapolis, Indiana.  
 SEÑOR THOMAS MORAN, *Director*, Member of the House of Deputies and Director of the New York Life Insurance Co. in Mexico, Mexico City, Mexico.  
 SEÑOR BERNARDO REYES, *Director*, Prominent Financier, Son of the present Minister of War of the Republic, Mexico City, Mexico.  
 CHARLES A. MUEHLBRONNER, *Director*, Proprietor Iron City Produce Co., Importers of Foreign Fruits, Director German National Bank and Western Savings Bank, Pittsburgh, Pa.

**I**N order that the bond holders and stockholders may have as wide a representation as possible, an Advisory Board, composed of twenty-one representative business men, has been formed. These gentlemen will pass upon all questions of importance and make such recommendations to the Board of Directors as may seem warranted in each case.

Five Hundred Thousand Dollars (\$500,000) of this allotment of bonds, is offered for cash and the remaining One Million Dollars (\$1,000,000) on 45 monthly payments. Each payment as made, is secured by issuing to the purchaser a 6 per cent. First Mortgage Sinking Fund Gold Note. These notes recite upon their face that when a purchaser has \$500 worth of them he may exchange them for One (1) \$500 6 per cent. First Mortgage Gold Bond at the INTERNATIONAL TRUST COMPANY, Boston, and receive, at the time of exchange, an equal bonus of stock.

The business of the Company is the growing and marketing of all tropical products, including Oranges, Lemons, Grape and other Citrus Fruits, Yucca, Coffee, Rubber, Pineapples, etc.

The bonds and notes are secured by a First Mortgage upon all the assets of the Company, real and personal, including 6000 acres of land, 1600 of which is under cultivation; a General Store, Merchandise, Residences, Administration Building, Starch Mill, Pineapple Cannery, Tin Can Factory, Bank, Laborer's Quarters, Warehouses, Live Stock, Mules, Cattle, etc., etc., together with all the necessary equipment and machinery to carry on the business of the Company.

**The present actual cash value of the property is \$1,011,062.50.** The money realized from the sale of bonds now offered will be used for further development and acquisitions. The property is located in the richest agricultural district of Mexico, on the Tehuantepec National Railroad, equi-distant from the Gulf of Mexico and the Pacific Ocean.

Yearly Estimated Profits: Guaranteed Interest on Bonds 6 per cent.; Estimated Earning on Stock 3 per cent.; Total 9 per cent. As more development is made and as more crops come into bearing each year, it is confidently expected that the earnings will gradually increase.

We desire to call attention to the fact that the management of THE CONSOLIDATED UBERO PLANTATIONS COMPANY has financed a number of similar propositions in the past. Notably among these are UBERO PLANTATION COMPANY OF INDIANAPOLIS, now in its fourth year and which has paid successively 10, 15 and 20 per cent. the last three years. Also, THE UBERO PLANTATION COMPANY OF BOSTON, which paid a 10 per cent. dividend December 31, 1901, and has declared a dividend of 10 per cent., payable December 31, 1902. Both of these properties are contiguous to those of this Company.

The proposition to the public is a very simple one. You purchase of the Company one bond for each \$500. You can make this purchase for cash or at the rate of \$5 or more per bond, per month. The Company gives you a First Mortgage upon all of its assets, real and personal, to secure whatever money you invest in its bonds. These bonds are due in ten years, but as 70 per cent. of the net earnings each year are paid to the INTERNATIONAL TRUST COMPANY, Boston, Mass., for the redemption of the bonds, some bonds will be redeemed on the first day of each January. This is decided by lot so that your bond may be redeemed on the first day of any January. With each \$500 bond which you purchase, **the Company gives you \$500 of stock as a bonus**, so that when your bond has been redeemed, you still have your investment in the Company represented by your bonus of stock, *which has not cost you a single cent of your own money.* The stock issued as a bonus to the bond purchasers is now earning 3 per cent., and naturally participates more largely in the earnings of the Company after the bonds have been paid, because none of the profits of the Company will then be required to pay interest on the bonds. So that, if no further development was made this same stock will then earn 9 per cent. This, however, must of necessity increase as new crops come into bearing.

For further information, prospectus, copy of legal opinion as to the validity of issue of these bonds, or for blank forms of application, apply in person or by letter to

**THE CONSOLIDATED UBERO PLANTATIONS COMPANY,****No. 89 STATE STREET, BOSTON, MASS.**

# AN AMERICAN RUBBER SPONGE

Stock Pure

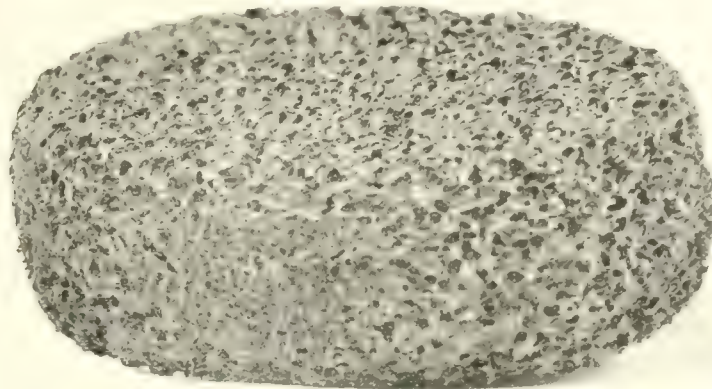
Color Just Right

Cells—Wonderfully Even

Weight—The Lightest Yet

Endurance—Will Last For Years

Capacity—Holds More Water Than Any Other



**We are now Filling Orders at Prices  
that will Interest the Whole Trade**

## THE CAMP RUBBER Co.

ASHLAND, OHIO



## Small Advertisement Department.

### SITUATIONS OPEN.

**CALINDER MAN**—Must thoroughly understand friction on long cotton cloth. If satisfactory will have permanent employment and good wages. Address **S. A. T.**, care of **THE INDIA RUBBER WORLD**. [378]

**WANTED**—Competent man, by a large manufacturer of rubber goods making Mechanicals and Tires, to get up Catalogues and all kinds of up-to-date advertising circulars. Address **ABILITY**, care of **THE INDIA RUBBER WORLD**. [377]

**WANTED**—By prominent manufacturer, Mechanical Rubber Goods Salesmen; splendid opportunity for advancement for right men. Address **O. S. T.**, care of **THE INDIA RUBBER WORLD**. [379]

**WANTED**—A man thoroughly familiar with running an English Spreader. Answer stating experience, and references. Only first class man need apply. Address **G. J.**, care of **THE INDIA RUBBER WORLD**. [380]

**WANTED**—Capable experienced Salesman for Reclaimed Rubber, one knowing Mould and Mechanical Goods manufacturers. Good salary paid to the right person. Address **RECLAIMED**, care of **THE INDIA RUBBER WORLD**. [384]

### SITUATIONS WANTED.

**MASTER MECHANIC**—Position wanted by Mechanical Engineer with 16 years' factory experience as Master Mechanic or Chief Engineer. Will be open for engagement about June 1. Address **MASTER MECHANIC**, care of **THE INDIA RUBBER WORLD**. [375]

**SUPERINTENDENT**—A man of unquestionable ability in manufacturing Mechanical Rubber Goods, Druggists' Sundries, and Tires of all descriptions, wishes to form new connection; willing to assume all responsibilities and guarantee the best of results compatible with given facilities. Best of references from last employers. Address **SELF RELYING**, care of **THE INDIA RUBBER WORLD**. [366]

**SUPERINTENDENT**—Reliable, practical man with a complete knowledge and full experience in the manufacture of all kinds Mechanical Rubber Goods and Sundries, would like to make engagement with good reputable concern, where honest efforts and a disposition to work would be appreciated. Compensation reasonable. Best references. Address **EXPERIENCE**, care of **THE INDIA RUBBER WORLD**. [383]

**SUPERINTENDENT**—Wanted, position as Superintendent of Mechanical Rubber Goods factory. Have had 22 years' experience in all lines of rubber goods; am capable Manager with executive ability; have all kinds of compounds, thoroughly competent and a hustler. Best of references. Address **HUSTLER**, care of **THE INDIA RUBBER WORLD**. [367]

**WANTED**—A young man with a thorough knowledge of the manufacture of Druggists' and Mechanical Rubber Goods would like position with European or American firm as Assistant Manager or Salesman. Address **J. R.**, care of **THE INDIA RUBBER WORLD**. [376]

### FOR SALE.

**ALL KINDS RUBBER WASTE**—We sell at low price, pure unvulcanized Rubber Scrap from Cement Waste. Write for free sample. Best cash prices paid for rubber scrap and waste. **Old Wringer Rolls** bought and sold a specialty. **UNITED STATES WASTE RUBBER CO.**, No. 487 N. Warren avenue, Brockton, Mass.

**FOR SALE**—About 25 tons Hard Rubber Scrap, from battery jars. Cleaned and fit for regrinding. Write for sample and particulars to **IMPORTER**, care of "The India Rubber World." [381]

### MACHINERY WANTED.

**WANTED**—One train of Tin Rolls; four Mills about 16 × 40; one Washer, 15 × 24; one Cracker, 15 × 24; one Rust Grinder; one 3 roll Calender, 18 × 48; a number of Vulcanizers 63" × 21"; one Engine, 300 to 350 H. P.; one Electric Engine Generator, about 125 H. P. If you have other machinery suitable for the Hard Rubber manufacture, describe it. Address **D. D.**, care of **THE INDIA RUBBER WORLD**. [382]

### BUSINESS OPPORTUNITY.

**MAX PETERSEN**, 39, Østergade, Copenhagen, Denmark, Manufacturers' Agent, wishes to represent first class American house in Scandinavia. Import and export. Free port facilities for Russian and Scandinavian trade. **At** references. [347]

### RUBBER PLANTING EXPERT.

**AN** Expert in the Cultivation and Curing of Rubber is open to an engagement in any part of the world. Highest prices obtained, in the world, for Rubber cured by my method. Also thorough experience (twelve years) in Cocoa, Vanilla, Pepper, Coffee, Tea, Cocoanuts, etc.; buildings, machinery, and surveying. Samples of Rubber and Press Notices with the Editor. Small salary will not be accepted. Address **PARA**, care of **THE INDIA RUBBER WORLD**. [351]

### DR. PETER T. AUSTEN

**COUNSEL AND EXPERT IN MANUFACTURING CHEMISTRY.** Processes, Formulas, Products, Patents, Wastes, Costs, Nuisances, etc. Experimental Tests and Investigations. Expert in Patent and Technical Litigation. **89 PINE STREET, NEW YORK.**

**Herbert S. Kimball**, 101 Tremont Street, Boston, Mass.  
**Chemical Engineer and Mill Architect.**  
**Engineering Problems Relating to the Rubber Industry.**  
**Designs for Buildings and Equipment.**  
*Mention The India Rubber World when you write.*

## Would-be Rubber Planters May Save Money.

**ASHMORE RUSSAN**, of 46, Leadenhall street, London, England, expert in the cultivation of tropical products, as Coffee, Cacao, Sugar cane, Tobacco, etc., with special knowledge of India-rubber cultivation and collection in Mexico, Brazil, Africa, etc., is open to examine and report upon virgin lands or plantations in any part of the world. Terms, references, and specimen reports on application, as above.

## RUBBER AND COFFEE LANDS.

**THE** Mexican Land and Colonization Company owns several hundred thousand acres of land suitable for Rubber and Coffee in the State of Chiapas, Mexico. The majority of the coffee plantations in Soconusco now producing largely were originally purchased from this Company also La Zacualpa and other rubber plantations.

For further particulars apply to

**O. H. HARRISON,**

**Spreckels Annex, 713 Market Street, SAN FRANCISCO.**

*Mention the India Rubber World when you write.*

**RUBBER COVER FOR MORTARS**—A German, **R. Scholl**, says the *Chemiker-Zeitung*, has devised a rubber cap to cover mortars while hygroscopic, poisonous, strong or offensive smelling drugs are being powdered. The cap is a conical sheet of rubber, the center being perforated to admit the pestle, and the rubber very flexible as to allow the pestle to be readily moved. The bottom of the cone is somewhat smaller at a short distance from the bottom, so as to remain on the mortar while moving the pestle.

## Crude Rubber and Compounding Ingredients.

A Text Book of Rubber Manufacture.

By HENRY C. PEARSON.

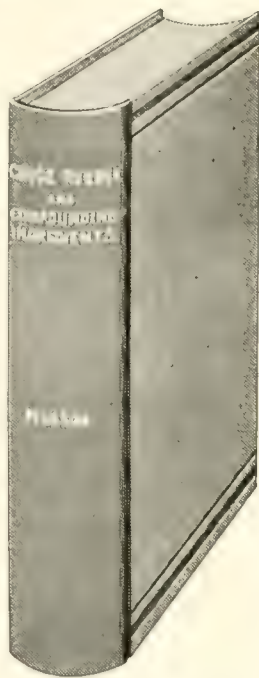
It is often a great convenience to have at hand, in convenient form for reference, a book that will remind a man of something which he needs to make use of in his work or business, without waiting to ransack his memory for it no matter how well he may once have learned it. "Crude Rubber and Compounding Ingredients" has been designed to serve just such a purpose. In fact the book was a gradual development of a manuscript reference book originally compiled by the author for his personal use alone. Finding how convenient it was to be able to turn to such a book, instead of having to depend on memory alone for the information it contained, the idea suggested itself that possibly others interested in the rubber industry might find these notes equally serviceable, and this is why they have been developed into a book. The reception of the book has been encouraging, and it may interest some who do not yet possess a copy of the book to know how some practical rubber workers regard it.

A superintendent writes: "It is a work that I want on my desk all the time, as it is surprising how often one wants to refer to it."

The manager of an important concern writes of the book: "Its value has grown on me; I now keep it by me in the factory and use it constantly, both for reference and suggestion."

THE INDIA RUBBER PUBLISHING CO.,

No. 150 Nassau Street, - - - New York.



PRICE \$10.

PREPAID.



SPECIALLY ADAPTED

for all purposes in

## Rubber Manufacturing

State your REQUIREMENTS and we will be pleased to give you the results of our 15 years experience.

HOHMANN & MAURER MFG. CO.,

ROCHESTER, N. Y., U. S. A.

Send for Illustrated Catalogue R.

London:

57 D, Hatton Garden, E. C.

New York:

85 Chambers St.

Chicago: 119 Lake St.

## RUBBER TRADE—ATTENTION!

# A GREAT CODE

For those who have to do with Rubber, Asbestos, Packing, Belting, etc., in any Shape or Form.

The only Publication of its kind in Existence.

It covers every Conceivable Technical Phrase used by the Trades.

A Great Money Saver.

Reduces Telegraph and Cable Tolls to a Minimum.

It contains a List of nearly 1,000 of the Largest Manufacturers, Exporters and Importers in the Trades with their Addresses and Cable Addresses.

Sent Post Free on Approval to any Responsible Firm.

**PRICE, \$10.00 PER COPY:**

Discounts on Quantities.

A Live, Substantial Advertising Medium.

PUBLISHED BY THE

INTERNATIONAL CABLE DIRECTORY COMPANY,

No. 17 STATE STREET, NEW YORK.

*Mention The India Rubber World when you write.*



# J. H. LANE & CO.,

BOSTON.

CHICAGO.

110 WORTH ST., NEW YORK.

PHILADELPHIA.

LONDON.

HOSE  
BELT  
SAIL  
WIDE

**DUCKS**

PAPER FELTS  
OUNCE GOODS  
ARMY DUCK  
OSNABURGS

**AUTOMOBILE  
AND BICYCLE**

**TIRE FABRICS**

SHEETINGS AND DRILLS.

SEA ISLAND, EGYPTIAN, AND PEELER YARNS,  
AND FABRICS IN REGULAR AND SPECIAL CONSTRUCTION.

*Mention The India Rubber World when you write.*

**NOT INJURED BY OIL**

Low  
Cost  
Belting

We make the cheapest priced belting in the world, if wearing results are considered. "Royal Worcester" Belts save loss of time, loss of power, loss of labor; weigh the most—greatest power transmitters. Do not sag, slip, or cause accident. Most inexpensive belts to use in the world.

We shall be glad to quote you prices, or send you a sample belt for free trial in your own factory.

Let us hear from you at once.

**GRATON & KNIGHT MFG. CO.,**

*Old Leather Belt Makers, Worcester, Mass.*

*Mention The India Rubber World when you write.*

**Vulcanizers of all sizes,  
CALENDERS, GRINDERS, MIXERS AND WASHERS,**

**Hydraulic and Screw Presses,  
Hydraulic Pumps and Accumulators.**

**THOS. F. STEVENSON,**

120 LIBERTY ST., NEW YORK.

Correspondence solicited. Several second-hand Calenders and Grinders for sale.

*Mention The India Rubber World when you write.*

**BONNER MANUFACTURING CO.,**

MANUFACTURERS  
OF ALL GRADES

**RUBBER SUBSTITUTES.**

GOODS MADE TO ORDER A SPECIALTY.

OFFICE: No. 89 State Street,

BOSTON, MASS.

*Mention The India Rubber World when you write.*

**YOU CAN CUT**

**THE TIME OF DRYING RUBBER**

**IN TWO**

BY USING THE

**STURTEVANT SYSTEM**



**B. F.**

**Sturtevant**

**Company,**

**BOSTON, MASS.**

—

**NEW YORK,**

**PHILADELPHIA**

**CHICAGO,**

**LONDON.**

139 *Mention The India Rubber World when you write.*

# Publishers' Page **INDIA RUBBER WORLD**

OFFICES:

No. 150 NASSAU ST., NEW YORK

## When To Send In Advertising "Copy."

OUR advertisers would confer a great favor upon the Publisher if, in sending in "copy" for changes, they would endeavor to do so as long as possible in advance of the date of publication—which is the last day of the month. We do not desire to fix any arbitrary rule as to the latest date in the month on which advertising copy will be received, for reasons may develop, just before the printing of the paper, to make a change of advertisement desirable. At the same time, it will add to the convenience of the business office if those who intend sending in advertising "copy" will consider, not the latest date on which it can be handled, but the earliest date on which it can be furnished.

Please try not to be later than the 23d of the month.

## Our Buyer's Directory.

WE are constantly in receipt of inquiries from firms or persons not in the rubber trade, but who desire to form business connections with some branch or other of that trade, for lists of rubber manufacturers or dealers. Often these inquirers are in a position to become buyers; others have something to sell. The answer usually made is to call attention to the "Buyers' Directory of the Rubber Trade," which appears regularly in THE INDIA RUBBER WORLD, and which contains the names and addresses of the leading firms in the different branches of the rubber business. Doubtless business results from the information thus given. We know that the "Buyers' Directory," is much consulted by subscribers to the paper, who have become accustomed to looking into it for the sort of information which it contains. It cannot fail to benefit rubber manufacturers, therefore, and others who may wish to keep in touch with the rubber manufacturing interest, to be included in this "Directory," for which reason we invite those members of the trade whose names do not appear there already, to give this department of the paper a careful examination, and to consider the advantages which might result from their being represented in it.

## A Jobber Helped by Our Paper.

THE manager of a new rubber jobbing house writes that THE INDIA RUBBER WORLD has rendered him "valuable services in making recent purchases" for his firm. "I have been a reader of THE INDIA RUBBER WORLD for a number of years," he adds, "but until now never appreciated its worth. Several of your advertisers can thank you for the starter we gave them."

## A Salesman Commends Mr. Pearson's Book.

IT is interesting to learn that, while Mr. Pearson's "Crude Rubber and Compounding Ingredients" was intended to be "a text book of rubber manufacture," as indicated on the title page, the book has been found to serve a useful purpose in other directions. For instance, a traveling salesman, of long experience in the employ of important rub-

ber manufacturers, has informed us recently that he has been profited by a study of the book, in that the knowledge gained from it has enabled him to discuss more satisfactorily with his customers many problems which arise with regard to the quality and properties of different rubbers, substitutes, etc., as affecting the character of his own and competing goods. The salesman in question, never having had the advantage of a factory experience, declared it to be his belief that, through the careful reading of this book, he had become possessed of information of even more value to him—besides which the book can be conveniently carried around with him for ready reference.

## A Book in Wide Demand.

A FACTORY superintendent of long experience in the employ of one of the great rubber shoe factories, in writing for a second copy of "Crude Rubber and Compounding Ingredients," says:

"I wish to say in regard to this book that we think it is a very valuable book for reference for anybody in the rubber business. It has been in such demand here that the writer had completely lost track of the book we purchased of you; in fact in the last few weeks we think somebody has fallen so much in love with it that they will not return it to us."

## He Appreciated the Gift.

WE learn from the manager of a new rubber manufacturing company that he received, as a Christmas gift from the company, a copy of "Crude Rubber and Compounding Ingredients," of which he has said some very complimentary things. No doubt this will prove to be a good investment for the company referred to. No doubt, also, there are other important employes of rubber companies who would be equally appreciative of this book as a gift—whether at Christmas-tide or in the beginning of spring.

## The Tropical Agriculturist.

PUBLISHED MONTHLY BY

A. M. &amp; J. FERGUSON, COLOMBO, CEYLON.

ALL about Tea, Coffee, Cacao, Tobacco, Cardamoms, Cotton, Cinchona, Sugar, Liberian Coffee, India-rubber, Cinnamon, Cassia, Coconuts, Palmira and other Palm Trees, Aloes and other Fibre Plants, Rice, Fruit Trees, Vegetables, Citronella and other Grasses yielding Essential Oils, Gum, and other Tropical Products.

Rates of Subscription for America, including Postage.

YEARLY, \$5.50. IN ADVANCE, \$3.00.

HALF YEARLY, \$3.00. " " \$2.60.

The whole sixteen volumes published can be had for \$88.

## The Ceylon Observer

CIRCULATES throughout the island of Ceylon, and in Southern India. Its Overland Edition circulates extensively in Great Britain and Ireland. Annual subscription, \$15.00. Overland Observer (Weekly), \$8.00. The Advertising Rates are moderate. Special quotations given for Trade Announcements, appearing for a series of insertions.

Maps of Ceylon and Estates, Ceylon Directory, Planting Manuals, etc. Cheques should be drawn in favor of the MANAGER, Ceylon Observer.

Mention The India Rubber World when you write.

## Mexican Lands.

TO individual purchasers or plantation companies I will sell at rock bottom prices Rubber and Tropical Plantation lands in the states of Vera Cruz, Oaxaca, Tabasco, and Chiapas, in tracts to suit, from 1,000 to 1,000,000 acres. All statements as to title and value guaranteed.

I have 1,000,000 acres of heavily timbered rubber lands that I can subdivide if desired, in the heart of the Rubber, Mahogany, Cedar, and Tropical Woods country on the largest river in Mexico, with a magnificent saw milling and manufacturing site. It is proposed to cut off the timber,—taking care of the Rubber trees now growing and planting new ones, that will in a few years make a magnificent rubber forest at practically no cost. Address—

J. J. FITZGERRELL, 1a. San Francisco, No. 7, Mexico City, Mexico, or  
M. M. FITZGERRELL, 810 Olive Street, St. Louis, Missouri.

Mention The India Rubber World when you write.

## Journal d'Agriculture Tropicale,

AGRICULTURAL, SCIENTIFIC, COMMERCIAL.

PUBLISHED BY

J. VILBOUCHEVITCH,

10, Rue Delambre, Paris, (France.)

Subscription: ONE YEAR, - - - 20 FRANCS.  
SIX MONTHS, - - - 10 FRANCS.

THE JOURNAL OF TROPICAL AGRICULTURE deals with all branches of tropical cultivation, giving prominence to the planting of Caoutchouc and the scientific study of Caoutchouc species. The JOURNAL is international in character, and is planned especially to interest readers in all lands where the French language is spoken or read.

Mention The India Rubber World when you write.



## Keeps the Heater Man Up to His Work.



This

Does

No. 300.

For

DRY HEATERS USED IN CURING

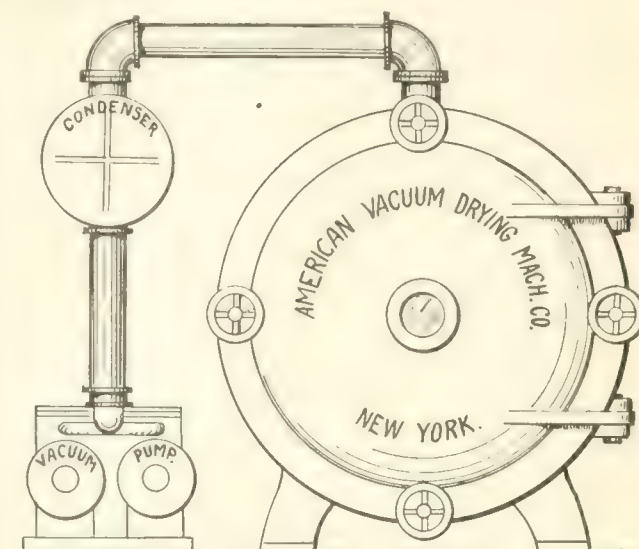
Rubber Boots and Shoes,  
Carriage Drills, Surface Clothing,  
Double Texture Goods, etc.  
**HELIOS-UPTON CO.,**  
PEABODY, MASS.

*Mention The India Rubber World when you write.*

## VACUUM DRYING MACHINES.

Sheet and Shoddy Rubber and Chemicals can be Dried in a Few Hours at Low Temperature. No Oxidation, Burning or Melting of the Material.

Large Drying Capacity of Several Charges per Day. Exhaust Steam or Hot Water for Heating. No other Drying System so Economical in the Saving of Time, Space, Steam, and of Capital invested, owing to the rapidity of this drying process.



**AMERICAN VACUUM DRYING MACHINE CO.,**

WORKS: NEW HAMBURGH, N. Y.

Office: 120 LIBERTY ST., N. Y. CITY.

WARNING: INFRINGEMENTS ON OUR PATENTS WILL BE PROSECUTED.

*Mention The India Rubber World when you write.*

**We Manufacture Our Products by Mechanical Means.**

## THE BLOOMINGDALE SOFT RUBBER WORKS,

Manufacturers of

THE FINEST GRADES OF

# Reclaimed and Devulcanized Rubber

FOR

## Manufacturing and Mechanical Purposes.

### BLOOMINGDALE, N. J.

*Mention The India Rubber World when you write.*

# BUYERS' DIRECTORY OF THE RUBBER TRADE.

CLASSIFIED LIST OF MANUFACTURERS AND DEALERS IN INDIA-RUBBER GOODS AND RUBBER MANUFACTURERS' SUPPLIES.

## INDEX TO ADVERTISERS.

NAME	PAGE
Adamson, A.	XXXXIV
Akron Commercial Co.	XX
Akron Rubber Works.	XXIX
Alden Rubber Co.	XXIX
Alden & Co., Geo. A.	II, XXXI
American Hard Rubber Co.	XX
American Tool & Machine Co.	XXXXIV
American Vacuum Drying Machine Co.	XXXXIV
Atlas Chemical Co.	XXXXIII
Austen, Peter T.	XXXXIII
Bailey & Co., C. J.	XXIV
Bauman Rubber Co., Jos.	XXIV
Barberton Rubber Wks.	XXIX
Barata & Salvadeo.	XXIX
Barrett Mfg. Co.	XXVII
Battelle & Renwick	XXXXIV
Bers & Co.	XXX
Birkenstein & Sons, S.	XXX
Birmingham Iron Foundry	XXXXIII
Bloomington Soft Rubber Wks.	XXIX
Boumer Mfg. Co.	XXI
Boomer & Boschert Press Co.	XXXXIV
Boston Belting Co.	XXIII
Boston Rubber Shoe Co.	XXIII
Boston Woven Hose & Rubber Co.	XXV
Brooks Bros. & Co.	XXXXIX
Cable Rubber Co.	XXIII
Cabot, Samuel.	XXIII
Camp Rubber Co.	XXXXVII
Cantor, Joseph.	XXXXVII
Chicago Rubber Wks.	XXIII
Chicago Tire & Rubber Co.	XXV
Clark, Edred W.	XXXXII
Cleveland Rubber Wks.	XXXX
Combination Rubber & Belting Co.	XXI
Conant Rubber Co.	XXXXIII
Consolidated Uvero Plantations Co.	XXXXVII

Continental Caoutchouc & Gutta Percha Co.	XX
Cravenette Co., Ltd.	XXI
Cummings & Sons, Wm. H.	XXXX
Coleman, W. C.	XXXX
Crescent Belting & Packing Co.	XXI
Davidson Rubber Co.	XXIX
Davol Rubber Co.	XXI
Egestorff's (Georg) Salzwerke.	XXXXI
Empire Rubber Mfg. Co.	XX
Eureka Fire Hose Co.	XX
Eureka Rubber Mfg. Co.	XXI
Farrel Foundry & Machine Co.	XXXX
Faultless Rubber Co.	XXIX
Fitzgerald, J. J.	XXII
Fossil Flour Co.	XXXXIX
General Information.	XXXXIII
Goodrich Co., B. F.	XXIX
Gorham Rubber Co.	XXI
Graton & Knight Mfg. Co.	XXI
Granby Rubber Co.	XXI
Gutta Percha & Rubber Mfg. Co., Toronto.	XXI
Hall & Co., D. C.	XXXXII
Harrison, O. H.	XXII
Helios (Lyon) Co.	XXXXI
Hodgman Rubber Co.	XXI
Hofeller & Co., Theodore.	XXXX
Hogson & Pettis Mfg. Co.	XXXXI
Hohman & Manner Mfg. Co.	XXXXIX
Holden, Leonard & Co.	XXXXII
Home Rubber Co.	XX
Hood Rubber Co.	XXIII
India-Rubber Pub. Co.	XXXXIX, XX
International Cable Directory Co.	XXXXIX
Jenkins Bros.	XXXXIII
"Journal d'Agriculture Tropicale"	XXII
Kambal, Herbert S.	XXXXIII
Kokomo Rubber Co.	XXIV
La Crosse Rubber Mills Co.	XXXXI
Lake Shore Rubber Co.	XXI
Lane & Co., J. H.	XXI
La Zuculpa Rubber Plantation Co.	XXXX
Liverpool Rubber Co., Ltd.	XXI
Lyon Rubber Co.	XXI
McGloory, Philip.	XXXXII
Manhattan Rubber Mfg. Co.	XXII
Manufactured Rubber Co.	XXII
Masson Regulator Co.	XXXXII
Massachusetts Chemical Co.	XXXXI
Mechanical Rubber Co.	XX
Meyer, Otto.	XXXX
Miford Rubber Co.	XXXXII
Morris & Co.	XXXXII
Morse & Co., A. T.	XXXXIX
New Century Rubber Co.	XXXXI
New Jersey Car Spring & Rubber Co.	XX
New Jersey Rubber Co.	XXXXIX
New Jersey Zinc Co.	XXXXIX
New York Belting & Packing Co.	XXIX
New York Rubber Co.	XXXXIII
Peerless Rubber Mfg. Co.	XXXXIII
Pennsylvania Rubber Co.	XXII
Papuan Rubber Co.	XXXXI
Philadelphia Rubber Wks.	XXXXIII
Picher Lead Co.	XXI
Plymouth Rubber Co.	XXXXII
Pure Gum Specialty Co.	XXIX
Raymond Rubber Co.	XXXXIX
Republic Rubber Co.	XXXXIX
Revere Rubber Co.	XXI
Royle & Sons, John.	XXXXIII
Rubber Specialty Co.	XXI
Rubber Trading Co.	XXI
Russan, Ashmore.	XXXXIII
Salomon Bros. & Co.	XXXX
Schmidt & Ebers.	XXXX
Shelp Mfg. Co., Henry H.	XXXXIII
Sherrman Mfg. Co., H. B.	XXXX
Singer Mfg. Co., Ltd.	XXI
Somerset's Sons, Wm.	XXXX
Speight, Geo. W.	XXI
Stamford Rubber Supply Co.	XXXXIII
Stedman & Co., Inc., J. H.	XXI
Stephenson, Thos. F.	XXI
Stokes Rubber Co., Jos.	XXXX
Strauss, Feist.	XXXX
Sturtevant Co., B. F.	XXI
Tantor Mfg. Co., H. F.	XXII
Terry, H. L.	XXXXII
Textile-Finishing Machine Co.	XXXXIX
Thropp, William R.	XXXXIX
Torch Bros.	XXXX
Turn & Sons, H.	XXXX
Trenton Rubber Mfg. Co.	XXXXI
Tropical Agriculturist.	XXXX
Tyer Rubber Co.	XXII
Typke & King.	XXXXII
United States Rubber Co.	XXXXII
U. S. Rubber Reclaiming Wks.	XXXXII
Voorhees Rubber Mfg. Co.	XX
Wanted and For Sale.	XXXXIII
Woods & Co., E. B.	XXXXII
Weld Mfg. Co.	XXI
Wellman Sole Cutting Machine Co.	XXXXIV
Western Rubber Co.	XXXXII
William's Foundry & Machine Co.	XXXXIX
Whaley & Co., W. B. Smith.	XXXXIX
White, T. & S. C., Co.	XXXXVII
Whitman & Barnes Mfg. Co.	XXXXIII
Woodman, Ph. D., Durand.	XXXXII
Yatman Rubber Co.	XX
Yerdon, William.	XXXXIII

## MECHANICAL RUBBER GOODS

Belting.
Diaphragms.
Gaskets.
Gauge Glass Washers.
Hose (Fire, Garden, Steam).
Mats and Matting.
Mould Work.
Packing.
Valves.
Washers.
Mechanical Rubber Goods—General.
Alden Rubber Co., Barberton, O.
Boston Belting Co., Boston-New York
Boston Woven Hose & Rubber Co.
Chicago Rubber Wks., Chicago
Cleveland Rubber Co., Cleveland, O.
Combination Rubber & Belting Co., Bloomfield, N. J.
Continental Caoutchouc & Guttapercha Co., Hanover, Germany.
Crescent Belting & Packing Co., Trenton, N. J.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Fire Hose Co., New York
Eureka Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
Gorham Rubber Co., San Francisco and Seattle.
Gutta Percha & Rubber Mfg. Co., N. Y.
Gutta Percha & Rubber Mfg. Co., Toronto.
Home Rubber Co., Trenton, N. J.
Lake Shore Rubber Co., Erie, Pa.
Liverpool Rubber Co., Liverpool, Eng.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., New York.
National India Rubber Co., Providence.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Pennsylvania Rubber Co., Jeannette, Pa.
Republic Rubber Co., Youngstown, Ohio.

## MECHANICAL GOODS.

Revere Rubber Co., Boston.
Jos. Stokes Rubber Co., Trenton, N. J.
Trenton Rubber Mfg. Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City.
Western Rubber Co., Goshen, Ind.
Whitman & Barnes Mfg. Co., Akron, O.
Air Brake Hose.
Boston Belting Co., Boston-New York
Boston Woven Hose & Rubber Co.
Combination Rubber & Belting Co., Bloomfield, N. J.
Crescent Belting & Packing Co., Trenton, N. J.
N. J. Car Spring & Rubber Co., Jersey City.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, Ohio
Revere Rubber Co., Boston-New York
Voorhees Rubber Mfg. Co., Jersey City
Whitman & Barnes Mfg. Co., Akron, O.
Belting (Cotton).
Boston Woven Hose & Rubber Co.
Eureka Fire Hose Co., New York.
Peerless Rubber Mfg. Co., New York
Revere Rubber Co., Boston-New York
Belting (Thresher).
Boston Woven Hose & Rubber Co.
Combination Rubber & Belting Co., Bloomfield, N. J.
Crescent Belting & Packing Co., Trenton, N. J.
Peerless Rubber Mfg. Co., New York.
Billiard Cushions.
Alden Rubber Co., Barberton, Ohio
Boston Belting Co., Boston.
Combination Rubber & Belting Co., Bloomfield, N. J.
B. F. Goodrich Co., Akron, O.
Manhattan Rubber Mfg. Co., New York
New York Belting & Packing Co., Ltd.
New York Rubber Co., New York
Revere Rubber Co., Boston-New York
Whitman & Barnes Mfg. Co., Akron, O.
Blankets—Printers'.
Boston Belting Co., Boston.
Hodgman Rubber Co., New York
Liverpool Rubber Co., Liverpool, Eng.

## MECHANICAL GOODS.

N. J. Car Spring & Rubber Co., Jersey City, N. J.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City
Boss Washers.
Combination Rubber & Belting Co., Bloomfield, N. J.
Brushes.
American Hard Rubber Co., New York
Boston Woven Hose & Rubber Co.
C. J. Bailey & Co., Boston.
Buffers.
Boston Belting Co., Boston-New York.
Combination Rubber & Belting Co., Bloomfield, N. J.
Crescent Belting & Packing Co., Trenton, N. J.
Liverpool Rubber Co., Ltd., Liverpool
Carriage Mats.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Combination Rubber & Belting Co., Bloomfield, N. J.
Crescent Belting & Packing Co., Trenton, N. J.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
Peerless Rubber Mfg. Co., New York
Voorhees Rubber Mfg. Co., Jersey City
Coin Mats.
Alden Rubber Co., Barberton, O.
Combination Rubber & Belting Co., Bloomfield, N. J.
Gooden Tire & Rubber Co., Akron, O.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Cord (Pure Rubber).
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Cleveland Rubber Co., Cleveland, O.
Combination Rubber & Belting Co., Bloomfield, N. J.
Crescent Belting & Packing Co., Trenton, N. J.

## MECHANICAL GOODS.

Davol Rubber Co., Providence, R. I.
Empire Rubber Mfg. Co., Trenton, N. J.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.
Deckle Straps.
Boston Belting Co., Boston.
Combination Rubber & Belting Co., Bloomfield, N. J.
Liverpool Rubber Co., Liverpool, Eng.
Mechanical Rubber Co., Chicago
New York Belting & Packing Co., N. Y.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Door Springs.
Hodgman Rubber Co., New York.
Dredging Sleeves.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Combination Rubber & Belting Co., Bloomfield, N. J.
N. J. Car Spring & Rubber Co., Jersey City.
Republic Rubber Co., Youngstown, O.
Fleshing Bands.
Combination Rubber & Belting Co., Bloomfield, N. J.
Revere Rubber Co., Youngstown, O.
Force Cups.
Hodgman Rubber Co., New York.
Revere Rubber Co., Boston-New York.
Fruit Jar Rings.
Alden Rubber Co., Barberton, O.
Boston Woven Hose & Rubber Co.
Cleveland Rubber Co., Cleveland, O.
Combination Rubber & Belting Co., Bloomfield, N. J.



## RUBBER BUYERS' DIRECTORY—CONTINUED.

## MECHANICAL GOODS.

Crescent Belting & Packing Co., Trenton, N. J.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 Manhattan Rubber Mfg. Co., New York  
 Republic Rubber Co., Youngstown, Ohio  
 New York Belting & Packing Co., N. Y.  
 Whitman & Barnes Mfg. Co., Akron, O.

## Fuller Balls.

Combination Rubber & Belting Co., Bloomfield, N. J.  
 N. J. Car Spring & Rubber Co., Jersey City.

Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Whitman & Barnes Mfg. Co., Akron, O.

## Gas-Bags (Rubber).

Cleveland Rubber Co., Cleveland, O.  
 Davol Rubber Co., Providence, R. I.  
 Liverpool Rubber Co., Liverpool, Eng.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.

Peerless Rubber Mfg. Co., New York.  
 Tyler Rubber Co., Andover, Mass.  
 Voorhees Rubber Mfg. Co., Jersey City.

## Grain Drill Tubes.

Boston Belting Co., Boston-New York.  
 Republic Rubber Co., Youngstown, O.  
 Whitman & Barnes Mfg. Co., Akron, O.

## Hat Bags.

Alden Rubber Co., Barberton, O.  
 Boston Belting Co., Boston.  
 Combination Rubber & Belting Co., Bloomfield, N. J.

Home Rubber Co., Trenton, N. J.  
 Manhattan Rubber Mfg. Co., New York.  
 Mechanical Rubber Co., Chicago.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.

New York Belting & Packing Co., N. Y.  
 New York Rubber Co., New York.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston.

## Horse Shoe Pads.

Combination Rubber & Belting Co., Bloomfield, N. J.  
 Crescent Belting & Packing Co., Trenton, N. J.

Peerless Rubber Mfg. Co., New York.  
 Pennsylvania Rubber Co., Jeannette, Pa.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Revere Rubber Co., Boston-New York.  
 Voorhees Rubber Mfg. Co., Jersey City.  
 Western Rubber Co., Goshen, Ind.  
 Whitman & Barnes Mfg. Co., Akron, O.

## Hose Armor.

Crescent Belting & Packing Co., Trenton, N. J.  
 W. D. Allen Mfg. Co., Chicago.

## Hose—Armored.

Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co., Bloomfield, N. J.

Crescent Belting & Packing Co., Trenton, N. J.  
 N. J. Car Spring & Rubber Co., Jersey City.

Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.  
 Voorhees Rubber Mfg. Co., Jersey City.  
 Woven Steel Hose & Cable Co., Trenton, N. J.

## Hose Couplings.

Boston Woven Hose & Rubber Co.

## Hose Linings.

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.  
 Combination Rubber & Belting Co., Bloomfield, N. J.

Empire Rubber Mfg. Co., Trenton, N. J.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.  
 Peerless Rubber Mfg. Co., New York.

## Hose Menders.

Boston Woven Hose & Rubber Co.

## Hose—Protected.

Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co., Bloomfield, N. J.  
 Revere Rubber Co., Boston-New York.  
 Voorhees Rubber Mfg. Co., Jersey City.

## Hose—Rubber Lined.

Combination Rubber & Belting Co., Bloomfield, N. J.

## COTTON HOSE.

Crescent Belting & Packing Co., Trenton, N. J.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 Gutta Percha and Rubber Mfg. Co., Toronto.

Home Rubber Co., Trenton, N. J.

## MECHANICAL GOODS.

Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Voorhees Rubber Mfg. Co., Jersey City.

COTTON HOSE AND LINEN HOSE.  
 Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.

Cleveland Rubber Co., Cleveland, O.  
 Eureka Fire Hose Co., New York.  
 Gutta Percha & Rubber Mfg. Co., N. Y.

Manhattan Rubber Mfg. Co., New York.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.

New York Belting & Packing Co., N. Y.  
 Revere Rubber Co., Boston.  
 Jos. Stokes Rubber Co., Trenton, N. J.

## LINEN HOSE.

Alden Rubber Co., Barberton, O.  
 Combination Rubber & Belting Co., Bloomfield, N. J.

Voorhees Rubber Mfg. Co., Jersey City.  
 Whitman & Barnes Mfg. Co., Akron, O.

## Hose—Submarine.

Boston Belting Co., Boston-New York.  
 Crescent Belting & Packing Co., Trenton, N. J.

Republic Rubber Co., Youngstown, O.  
 Boston Woven Hose & Rubber Co.

## Hose Wire Wound.

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.  
 Combination Rubber & Belting Co., Bloomfield, N. J.

Crescent Belting & Packing Co., Trenton, N. J.  
 N. J. Car Spring & Rubber Co., Jersey City.

Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston.

## Lawn Sprinklers.

Boston Woven Hose & Rubber Co.

## Mallets (Rubber).

Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co., Bloomfield, N. J.

Peerless Rubber Mfg. Co., New York.  
 Revere Rubber Co., Boston-New York.

## Mould Work.

[See Mechanical Rubber Goods.]  
 Chicago Tire & Rubber Co., Chicago.  
 Crescent Belting & Packing Co., Trenton, N. J.

Davidson Rubber Co., Boston.  
 Davol Rubber Co., Providence, R. I.  
 Faultless Rubber Co., Akron, O.

Hodgman Rubber Co., New York.  
 La Crosse (Wis.) Rubber Mills Co.  
 National India Rubber Co., Bristol, R. I.

Plymouth Rubber Co., Stoughton, Mass.  
 Rubber Specialty Co., Akron, O.  
 Tyler Rubber Co., Andover, Mass.

Yatman Rubber Co., Harrison, N. J.

## "Nubian" Packing.

Voorhees Rubber Mfg. Co., Jersey City

## Oil Well Supplies.

Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co., Bloomfield, N. J.

Crescent Belting & Packing Co., Trenton, N. J.  
 Lake Shore Rubber Co., Erie, Pa.

N. J. Car Spring & Rubber Co., Jersey City.  
 Peerless Rubber Mfg. Co., New York.

Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-Pittsburgh.  
 Voorhees Rubber Mfg. Co., Jersey City.

Whitman & Barnes Mfg. Co., Akron, O.

## Paper Machine Rollers.

Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co., Bloomfield, N. J.

Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.  
 Peerless Rubber Mfg. Co., New York.

Voorhees Rubber Mfg. Co., Jersey City

## Plumbers' Supplies.

Republic Rubber Co., Youngstown, O.  
 Western Rubber Co., Goshen, Ind.

## Pump Buckets.

Combination Rubber & Belting Co., Bloomfield, N. J.  
 Peerless Rubber Mfg. Co., New York.

Pennsylvania Rubber Co., Jeannette, Pa.  
 Republic Rubber Co., Youngstown, O.

## "Rainbow" Packing.

Peerless Rubber Mfg. Co., New York.

## Reels—Hose.

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.

## MECHANICAL GOODS.

Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.

## Rings.

Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co., Bloomfield, N. J.

Peerless Rubber Mfg. Co., New York.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Republic Rubber Co., Youngstown, O.

## Rollers—Rubber Covered.

Alden Rubber Co., Barberton, O.  
 Boston Belting Co., Boston.

Boston Woven Hose & Rubber Co.  
 Cleveland Rubber Co., Cleveland, O.  
 Combination Rubber & Belting Co., Bloomfield, N. J.

Crescent Belting & Packing Co., Trenton, N. J.  
 Empire Rubber Mfg. Co., Trenton, N. J.

B. F. Goodrich Co., Akron, O.  
 Home Rubber Co., Trenton, N. J.  
 Manhattan Rubber Mfg. Co., New York.

Mechanical Rubber Co., Chicago.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.

New York Belting & Packing Co., N. Y.  
 Peerless Rubber Mfg. Co., New York.  
 Plymouth Rubber Co., Stoughton, Mass.

Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.

## Sewing Machine Rubbers.

Combination Rubber & Belting Co., Bloomfield, N. J.

## Springs—Rubber.

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.

Combination Rubber & Belting Co., Bloomfield, N. J.  
 Crescent Belting & Packing Co., Trenton, N. J.

Liverpool Rubber Co., Liverpool, Eng.  
 N. J. Car Spring & Rubber Co., Jersey City.

Peerless Rubber Mfg. Co., New York.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Republic Rubber Co., Youngstown, Ohio.

Revere Rubber Co., Boston-New York.  
 Voorhees Rubber Mfg. Co., Jersey City.

## Stair Treads.

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.

Cleveland Rubber Co., Cleveland, O.  
 Combination Rubber & Belting Co., Bloomfield, N. J.

Crescent Belting & Packing Co., Trenton, N. J.  
 Empire Rubber Mfg. Co., Trenton, N. J.

Home Rubber Co., Trenton, N. J.  
 Liverpool Rubber Co., Liverpool, Eng.

Manhattan Rubber Mfg. Co., New York.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.

New York Belting & Packing Co., N. Y.  
 New York Rubber Co., New York.  
 Peerless Rubber Mfg. Co., New York.

Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.  
 Voorhees Rubber Mfg. Co., Jersey City.

## Tiling.

Combination Rubber & Belting Co., Bloomfield, N. J.

Gutta Percha & Rubber Mfg. Co., N. Y.  
 N. J. Car Spring & Rubber Co., Jersey City.

New York Belting & Packing Co., N. Y.  
 Peerless Rubber Mfg. Co., New York.

Republic Rubber Co., Youngstown, Ohio.  
 Voorhees Rubber Mfg. Co., Jersey City.

## Tire Inner Tubes.

Western Rubber Co., Goshen, Ind.

## Tires.

BICYCLE AND CARRIAGE.  
 Alden Rubber Co., Barberton, O.  
 Boston Woven Hose & Rubber Co.

Continental Caoutchouc & Guttapercha Co., Hanover.  
 Empire Rubber Mfg. Co., Trenton, N. J.

B. F. Goodrich Co., Akron, O.  
 Gutta Percha & Rubber Mfg. Co., Toronto.

Kokomo Rubber Co., Kokomo, Ind.  
 Lake Shore Rubber Co., Erie, Pa.

Liverpool Rubber Co., Liverpool, Eng.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Republic Rubber Co., Youngstown, O.

## CARRIAGE.

Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co., N. J. Car Spring & Rubber Co., Jersey City.

New York Belting & Packing Co., N. Y.  
 Pennsylvania Rubber Co., Jeannette, Pa.

## MECHANICAL GOODS.

Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.  
 Western Rubber Co., Goshen, Ind.

## Truck Bands.

Alden Rubber Co., Barberton, O.  
 Boston Belting Co., Boston.

Boston Woven Hose & Rubber Co.  
 Canadian Rubber Co. of Montreal.  
 Cleveland Rubber Co., Cleveland, O.

Combination Rubber & Belting Co., Bloomfield, N. J.  
 Empire Rubber Mfg. Co., Trenton, N. J.

Home Rubber Co., Trenton, N. J.  
 Manhattan Rubber Mfg. Co., New York.  
 Mechanical Rubber Co., Chicago.

N. J. Car Spring & Rubber Co., Jersey City, N. J.  
 New York Belting & Packing Co., N. Y.

Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Voorhees Rubber Mfg. Co., Jersey City.

Whitman & Barnes Mfg. Co., Akron, O.

## Tubing.

[See Mechanical Rubber Goods.]

American Hard Rubber Co., New York.  
 Crescent Belting & Packing Co., Trenton, N. J.

Davidson Rubber Co., Boston.  
 Davol Rubber Co., Providence, R. I.  
 Peerless Rubber Mfg. Co., New York.

Plymouth Rubber Co., Stoughton, Mass.  
 Tyler Rubber Co., Andover, Mass.

## Tubing (Beer).

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.

Combination Rubber & Belting Co., Bloomfield, N. J.  
 Crescent Belting & Packing Co., Trenton, N. J.

Peerless Rubber Mfg. Co., New York.  
 Plymouth Rubber Co., Stoughton, Mass.

Republic Rubber Co., Youngstown, O.  
 Voorhees Rubber Mfg. Co., Jersey City.

## "Usudurian" Packing.

Revere Rubber Co., Boston-New York.

## Valve Balls.

Boston Belting Co., Boston.  
 Cleveland Rubber Co., Cleveland, O.

Combination Rubber & Belting Co., Bloomfield, N. J.  
 Manhattan Rubber Mfg. Co., New York.

Mechanical Rubber Co., Chicago.  
 New York Belting & Packing Co., N. Y.

New York Rubber Co., New York.  
 Peerless Rubber Mfg. Co., New York.

Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.

## Valve Discs.

American Hard Rubber Co., New York.  
 Boston Belting Co., Boston-New York.

Combination Rubber & Belting Co., Bloomfield, N. J.  
 Peerless Rubber Mfg. Co., New York.

Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.

## Valves.

[See Mechanical Rubber Goods.]

Jenkins Bros., New York-Chicago.  
 Plymouth Rubber Co., Stoughton, Mass.

## Wringer Rolls.

Cleveland Rubber Co., Cleveland, O.  
 Combination Rubber & Belting Co., Bloomfield, N. J.

Republic Rubber Co., Youngstown, O.

## DRUGGISTS' AND STATIONERS' SUNDRIES

## Atomizers.

## Bandages.

## Bulbs.

## Water Bottles.

## Druggists' Sundries—General.

American Hard Rubber Co., New York.  
 C. J. Bailey & Co., Boston.

Canadian Rubber Co. of Montreal.  
 Cleveland Rubber Co., Cleveland, O.  
 Davidson Rubber Co., Boston.

Davol Rubber Co., Providence, R. I.  
 Faultless Rubber Co., Akron, O.  
 B. F. Goodrich Co., Akron, O.

Hodgman Rubber Co., New York.  
 Rubber Specialty Co., Akron, O.  
 Tyler Rubber Co., Andover, Mass.

## Balls, Dolls and Toys.

Continental Caoutchouc & Guttapercha Co.  
 New York Rubber Co., New York.

Whitman & Barnes Mfg. Co., Akron, O.



## RUBBER BUYERS' DIRECTORY CONTINUED.

## DRUGGISTS' SUNDRIES

## Combs.

American Hard Rubber Co., New York  
Harburg Rubber Comb Co., Harburg  
Germany.  
Schrader & Ehlers, New York.

## Elastic Bands.

Davidson Rubber Co., Boston.  
Daval Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York-Boston.  
Pennsylvania Rubber Co., Erie, Pa.  
Tyer Rubber Co., Andover, Mass.  
Whitman & Barnes Mfg. Co., Akron, O.

## Erasive Rubbers.

Davidson Rubber Co., Boston.  
B. F. Goodrich Co., Akron, O.  
Yatman Rubber Co., Harrison, N. J.

## Finger Cots.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Faultless Rubber Mfg. Co., Akron, O.  
India Rubber Co., Akron, O.  
Lyon Rubber Co., Akron, O.  
Pure Gum Specialty Co., Barberton, O.

## Gloves.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Daval Rubber Co., Providence, R. I.  
Faultless Rubber Co., Akron, O.  
India Rubber Co., Akron, O.  
Lyon Rubber Co., Akron, O.  
Pure Gum Specialty Co., Barberton, O.

## Hard Rubber Goods.

American Hard Rubber Co., New York.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Daval Rubber Co., Providence, R. I.  
Harburg Rubber Comb Co., Harburg,  
Germany.  
Schrader & Ehlers, New York.  
Stokes Rubber Co., Joseph, Trenton, N. J.  
Tyer Rubber Co., Andover, Mass.

## Hospital Sheatings.

Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Conant Rubber Co., Boston.  
Davidson Rubber Co., Boston.  
Daval Rubber Co., Providence, R. I.  
Hodgman Rubber Co., New York.  
Plymouth Rubber Co., Stoughton, Mass.  
Tyer Rubber Co., Andover, Mass.

## Hot Water Bottles.

American Hard Rubber Co., New York  
Cleveland Rubber Co., Cleveland, O.  
Davidson Rubber Co., Boston.  
Daval Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York-Boston.  
Tyer Rubber Co., Andover, Mass.

## Ice Bags.

Hodgman Rubber Co., New York.  
Lyon Rubber Co., Akron, O.  
Pure Gum Specialty Co., Barberton, O.

## Ice Caps.

Pure Gum Specialty Co., Barberton, O.  
Tyer Rubber Co., Andover, Mass.

## Life Preservers

Hodgman Rubber Co., New York.

## Mittens.

Daval Rubber Co., Providence, R. I.  
Faultless Rubber Co., Akron, O.

## Nipple Caps.

Peerless Rubber Mfg. Co., New York.

## Nipples.

Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Davidson Rubber Co., Boston.  
Daval Rubber Co., Providence, R. I.  
Faultless Rubber Co., Akron, O.  
Lyon Rubber Co., Akron, O.  
Pure Gum Specialty Co., Barberton, O.  
Tyer Rubber Co., Andover, Mass.

## Notions.

American Hard Rubber Co., New York.  
Davidson Rubber Co., Boston.  
Tyer Rubber Co., Andover, Mass.

## Rulers.

American Hard Rubber Co., New York  
Sponges (Rubber).

Camp Rubber Co., Ashland, Ohio.  
Chicago Tire & Rubber Co., Chicago.

## Stationers' Sundries.

American Hard Rubber Co., New York  
Cleveland Rubber Co., Cleveland, O.  
Davidson Rubber Co., Boston.  
Daval Rubber Co., Providence, R. I.  
Goodyear Tire & Rubber Co., Akron, O.  
Hodgman Rubber Co., New York-Boston  
Rubber Specialty Co., Akron, O.  
Tyer Rubber Co., Andover, Mass.

## DRUGGISTS' SUNDRIES

## Stopples (Rubber).

Alden Rubber Co., Barberton, O.  
H. O. Canfield, Bridgeport, Ct.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Daval Rubber Co., Providence, R. I.  
Hodgman Rubber Co., New York.  
Manhattan Rubber Mfg. Co., New York  
New York Belting & Packing Co., N. Y.  
Tyer Rubber Co., Andover, Mass.  
Whitman & Barnes Mfg. Co., Akron, O.

## Surgical Appliances.

Faultless Rubber Co., Akron, O.

## Syringes.

American Hard Rubber Co., New York.  
Cleveland Rubber Co., Cleveland, O.  
Daval Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York.  
Tyer Rubber Co., Andover, Mass.

## Throat Bags.

Cleveland Rubber Co., Cleveland, O.  
Daval Rubber Co., Providence, R. I.  
Tyer Rubber Co., Andover, Mass.

## Tobacco Pouches.

Pure Gum Specialty Co., Barberton, O.  
Tyer Rubber Co., Andover, Mass.

RUBBER  
FOOTWEAR

## Boots and Shoes.

American Rubber Co., Boston.  
Joseph Banigan Rubber Co., Providence,  
R. I.  
Boston Rubber Shoe Co., Boston.  
L. Candee & Co., New Haven, Ct.  
Granby Rubber Co., Granby, Quebec.  
Gutta Percha & Rubber Mfg. Co. of  
Toronto.

Hood Rubber Co., Boston.  
Jersey Rubber Shoe Co., New York.  
Liverpool Rubber Co., Liverpool, Eng.  
Living Rubber Co., Williamsport, Pa.  
Meyer Rubber Co., New York.  
National India Rubber Co., Boston-  
Providence  
United States Rubber Co., New York  
Wales-Goodyear Rubber Co., Boston.  
Woonsocket Rubber Co., Providence

## Heels and Soles.

Boston Woven Hose & Rubber Co.,  
Chicago Tire & Rubber Co., Chicago.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Continental Caoutchouc & Guttapercha  
Co., Hanover.  
Elastic Tip Co., Boston, Mass.  
Pirelli & Co., Milan, Italy.  
Plymouth Rubber Co., Stoughton, Mass.  
Western Rubber Co., Goshen, Ind.

## Tennis Shoes.

American Rubber Co., Boston.  
Joseph Banigan Rubber Co., Providence,  
R. I.  
Boston Rubber Shoe Co., Boston.  
Granby Rubber Co., Granby, Quebec.  
Liverpool Rubber Co., Liverpool, Eng.  
National India Rubber Co., Providence

## Tennis Soles.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Jos. Stokes Rubber Co., Trenton, N. J.

## Wading Pants.

Hodgman Rubber Co., New York.

MACKINTOSHED  
AND SURFACE  
GOODS

## Air Goods (Rubber).

Cleveland Rubber Co., Cleveland, O.  
Daval Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York.  
New York Belting & Packing Co., N. Y.  
National India Rubber Co., Providence  
Tyer Rubber Co., Andover, Mass.

## Aprons.

Hodgman Rubber Co., New York.

## Barbers' Bibs.

Daval Rubber Co., Providence, R. I.  
Tyer Rubber Co., Andover, Mass.

## Bathing Caps.

Conant Rubber Co., Boston.  
Daval Rubber Co., Providence, R. I.  
D. C. Hall & Co., New York.

## MACKINTOSHED GOODS.

## Bellows Cloths.

Boston Rubber Co., Boston.  
Cable Rubber Co., Boston.  
Cleveland Rubber Co., Cleveland, O.  
Hodgman Rubber Co., New York.  
La Crosse (Wis.) Rubber Mills Co.

## Calendering.

La Crosse (Wis.) Rubber Mills Co.  
Milford Rubber Co., Boston.  
Plymouth Rubber Co., Stoughton, Mass.

## Canoe Beds.

Hodgman Rubber Co., New York.

## Carriage Ducks and Drills.

Cable Rubber Co., Boston.  
Cleveland Rubber Co., Cleveland, O.  
Empire Rubber Mfg. Co., Trenton, N. J.  
Gutta Percha & Rubber Mfg. Co., To-  
ronto.

## Clothing.

Cable Rubber Co., Boston.  
Cleveland Rubber Co., Cleveland, O.  
Conant Rubber Co., Boston.  
Granby Rubber Co., Granby, Quebec.  
Gutta Percha & Rubber Mfg. Co. of To-  
ronto.  
Hodgman Rubber Co., New York.  
Holden, Leonard & Co., Boston.  
La Crosse (Wis.) Rubber Mills Co.  
Pirelli & Co., Milan, Italy.

## Cravenette.

Cravenette Co., Ltd.

## Diving Dresses.

Hodgman Rubber Co., New York

## Dress Shields.

Conant Rubber Co., Boston.  
D. C. Hall & Co., New York.  
Hodgman Rubber Co., New York.

## Horse Covers.

Hodgman Rubber Co., New York.

## Leggings.

Cleveland Rubber Co., Cleveland, O.  
Hodgman Rubber Co., New York.

## Mackintoshes.

[See Clothing.]

## Proofing.

La Crosse (Wis.) Rubber Mills Co.  
Milford Rubber Co., Boston.  
Plymouth Rubber Co., Stoughton, Mass.

## Rain Coats.

Cravenette Co., Ltd.

## Sheets and Sheeting.

D. C. Hall & Co., New York.

DENTAL AND  
STAMP RUBBER

## Dental Gum.

American Hard Rubber Co., New York  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Tyer Rubber Co., Andover, Mass.

## Rubber Dam.

Cleveland Rubber Co., Cleveland, O.  
Daval Rubber Co., Providence, R. I.  
Hodgman Rubber Co., New York.  
Seamless Rubber Co., New Haven, Ct.  
Tyer Rubber Co., Andover, Mass.

## Stamp Gum.

Alden Rubber Co., Barberton, Ohio.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Mechanical Rubber Co., Chicago, Ill.  
N. J. Car Spring & Rubber Co., Jersey  
City, N. J.  
New York Belting & Packing Co., N. Y.  
Seamless Rubber Co., New Haven, Ct.  
Western Rubber Co., Goshen, Ind.

SPORTING  
GOODS

## Foot Balls.

Cleveland Rubber Co., Cleveland, O.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York.

## Golf Balls.

Boston Belting Co., Boston.  
Davidson Rubber Co., Boston.  
B. F. Goodrich Co., Akron, O.  
Whitman & Barnes Mfg. Co., Akron, O.

## Submarine Outfits.

Hodgman Rubber Co., New York.

## SPORTING GOODS.

## Sporting Goods.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Hodgman Rubber Co., New York  
Seamless Rubber Co., New Haven, Ct.  
Tyer Rubber Co., Andover, Mass.

## Striking Bags.

Pure Gum Specialty Co., Barberton, O.

## ELECTRICAL

## Electrical Supplies.

American Hard Rubber Co., New York  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Lake Shore Rubber Co., Erie, Pa.  
Joseph Stokes Rubber Co., Trenton, N. J.  
Massachusetts Chemical Co., Boston.  
Tyer Rubber Co., Andover, Mass.  
Western Rubber Co., Goshen, Ind.

## Friction Tape.

Boston Belting Co., Boston.  
Boston Woven Hose & Rubber Co.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
B. F. Goodrich Rubber Co., Akron, O.  
Massachusetts Chemical Co., Boston.  
Mechanical Rubber Co., Chicago.  
Home Rubber Co., Trenton, N. J.  
Revere Rubber Co., Boston-New York.  
Whitman & Barnes Mfg. Co., Akron, O.

## Hard Rubber Goods.

American Hard Rubber Co., New York,  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Joseph Stokes Rubber Co., Trenton, N. J.

## Insulating Compounds.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Gutta-Percha & Rubber Mfg. Co., To-  
ronto.  
Massachusetts Chemical Co., Boston.

## Insulated Wire and Cables.

National India Rubber Co., Providence.

## Splicing Compound.

Home Rubber Co., Trenton, N. J.  
Western Rubber Co., Goshen, Ind.

## MISCELLANEOUS

## Architect.

Herbert S. Kimball, Boston.

## Belting—Leather.

Graton & Knight Mfg. Co., Boston.

## Books for Rubber Men.

India Rubber Publishing Co., N. Y.

## Cement (Rubber).

Boston Belting Co., Boston  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Manhattan Rubber Mfg. Co., New York.  
Monarch Rubber Co., Campello, Mass.  
N. J. Car Spring & Rubber Co., Jersey  
City, N. J.  
New York Belting & Packing Co., N. Y.

## Chemical Analyses.

Durand Woodman, Ph. D., New York.  
H. L. Terry, Manchester, England.

## Chemical Expert.

Peter T. Austin, New York.

## Investments.

Consolidated Rubber Plantations Co. of  
Ubero, Boston.  
La Zaeualpa Rubber Plantation Co., San  
Francisco.

## Rubber Code.

International Cable Directory Co., N. Y.  
Rubber Lands For Sale.

Ashmole Russia, London, England.  
J. J. Fitzgerald, Mexico.  
O. H. Harrison, San Francisco.

## Rubber Planting.

Consolidated Rubber Plantations Co. of  
Ubero, Boston  
La Zaeualpa Rubber Plantation Co., San  
Francisco

## Thermometers.

Hohmann & Maurer Mfg. Co., Roches-  
ter, N. Y.  
Helios-Upton Co., Peabody, Mass.



## MACHINERY AND SUPPLIES FOR RUBBER MILLS.

RUBBER  
MACHINERY

## Acid Tanks.

Birmingham Iron Foundry, Derby, Ct.

## Band Cutting Machine.

A. Adamson, Akron, O.

Birmingham Iron Foundry, Derby, Ct.

## Belt Folding Machines.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Belt Slitters.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Belt Stretchers.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Blowers.

B. F. Sturtevant Co., Boston.

## Boilers.

William R. Thropp, Trenton, N. J.

## Boot Trees.

Metal Last &amp; Tree Co., Boston.

## Buckles.

The Weld Mfg. Co., Boston.

## Calenders.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Fayette Finishing Machinery Co., Providence, R. I.

Thos. F. Stevenson, New York.

## Castings.

A. Adamson, Akron, O.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Chucks (Lathe).

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Churns.

American Tool &amp; Machine Co., Boston.

## Cloth Dryers.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Clutches.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Crackers.

Birmingham Iron Foundry, Derby, Ct.

## Devulcanizers.

Birmingham Iron Foundry, Derby, Ct.

Edred W. Clark, Hartford, Ct.

William R. Thropp, Trenton, N. J.

## Dies.

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Doubling Machines.

American Tool &amp; Machine Co., Boston.

## Drying Apparatus.

B. F. Sturtevant Co., Boston.

## Drying Machines.

Birmingham Iron Foundry, Derby, Ct.

Fayette Finishing Machinery Co., Providence, R. I.

American Vacuum Drying Machine Co., New York.

## Dynamometers.

B. F. Sturtevant &amp; Co., Boston.

## Embossing Calenders.

Fayette Finishing Machinery Co., Providence, R. I.

## Electric Power Transmission.

W. B. Smith Whaley &amp; Co., Boston, Mass.—Columbia, S. C.

## Engines.

B. F. Sturtevant Co., Boston.

William R. Thropp, Trenton, N. J.

## Engraving (Roll).

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Exhaust Fans and Heads.

B. F. Sturtevant Co., Boston.

## Factory Construction.

Herbert S. Kimball, Boston.

## Fans (Electric).

B. F. Sturtevant &amp; Co., Boston.

B. F. Sturtevant &amp; Co., Boston.

William R. Thropp, Trenton, N. J.

## Fans (Exhaust and Ventilating).

B. F. Sturtevant &amp; Co., Boston.

## Forges.

B. F. Sturtevant &amp; Co., Boston.

## Gas Exhausters.

B. F. Sturtevant &amp; Co., Boston.

## RUBBER MACHINERY.

## Gearing.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Generating Sets.

B. F. Sturtevant Co., Boston.

## Grinders.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Thos. F. Stevenson, New York.

William R. Thropp, Trenton, N. J.

## Hangers.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Hard Rubber Lathes.

A. Adamson, Akron, Ohio.

## Heating Apparatus.

B. F. Sturtevant Co., Boston.

## Hose Making Machines.

Birmingham Iron Foundry, Derby, Ct.

## Hose Wrapping Machines.

A. Adamson, Akron, Ohio.

Birmingham Iron Foundry, Derby, Ct.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Hydraulic Accumulators.

A. Adamson, Akron, Ohio.

Birmingham Iron Foundry, Derby, Ct.

William R. Thropp, Trenton, N. J.

## Jar Ring Lathes.

A. Adamson, Akron, Ohio.

Birmingham Iron Foundry, Derby, Ct.

Thos. F. Stevenson, New York.

William R. Thropp, Trenton, N. J.

## Machinists' Tools.

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Mechanical Draft.

B. F. Sturtevant Co., Boston.

## Mixers.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Thos. F. Stevenson, New York.

William R. Thropp, Trenton, N. J.

## Motors (Electric).

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Moulds.

A. Adamson, Akron, Ohio.

Birmingham Iron Foundry, Derby, Ct.

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

Williams Foundry &amp; Machine Co., Akron, O.

## Pillow Blocks.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Post Hangers.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Power Transmission.

W. B. Smith Whaley &amp; Co., Boston.

## Presses (for Rubber Work).

A. Adamson, Akron, O.

Birmingham Iron Foundry, Derby, Ct.

Boomer &amp; Boschert Press Co., Syracuse, N. Y.

Edred W. Clark, Hartford, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Thos. F. Stevenson, New York.

William R. Thropp, Trenton, N. J.

Williams Foundry &amp; Machine Co., Akron, O.

## Pumps.

Birmingham Iron Foundry, Derby, Ct.

Boomer &amp; Boschert Press Co., Syracuse, N. Y.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Thos. F. Stevenson, New York.

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Reducing Valves.

Mason Regulator Co., Boston.

## Rollers.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Rollers (Hand).

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Second-Hand Machinery.

Philip McGroarty, Trenton, N. J.

Thos. F. Stevenson, New York.

## Shafting.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Special Rubber Machinery.

Wellman Sore Cutting Machine Co., Medford, Mass.

## Spreaders.

American Tool &amp; Machine Co., Boston.

Birmingham Iron Foundry, Derby, Ct.

Steam Traps and Specialties.

Jenkins Bros., New York.

Mason Regulator Co., Boston.

B. F. Sturtevant Co., Boston.

## RUBBER MACHINERY

## Steel Stamps.

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Stitchers (Hand).

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Thermometers.

Hohmann &amp; Maurer Mfg. Co., Rochester, N. Y.

Hellas-Upton Co., Peabody, Mass.

## Tubing Machines.

A. Adamson, Akron, O.

Edred W. Clark, Hartford, Ct.

John Royle &amp; Sons, Paterson, N. J.

Williams Foundry &amp; Machine Co., Akron, O.

## Vacuum Drying Chambers.

American Vacuum Drying Machine Co., New York.

## Varnishing Machines.

Birmingham Iron Foundry, Derby, Ct.

## Ventilating Fans.

B. F. Sturtevant Co., Boston.

## Vulcanizers.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Thos. F. Stevenson, New York.

William R. Thropp, Trenton, N. J.

## Washers.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Thos. F. Stevenson, New York.

William R. Thropp, Trenton, N. J.

## Wrapping Machines.

A. Adamson, Akron, O.

Birmingham Iron Foundry, Derby, Ct.

FACTORY  
SUPPLIES

## Acid (Carbolic).

Barrett Mfg. Co., Philadelphia.

## Antimony, Sulphurets of.

GOLDEN.

Aetion-Ges. Georg Egestorff's Sal-

werke, Linden, Germany.

Atlas Chemical Co., Newtonville, Mass.

## GOLDEN AND CRIMSON.

Joseph Cantor, New York.

Stamford (Conn.) Rubber Supply Co.

Typke &amp; King, London, England.

## Balata.

George A. Alden &amp; Co., Boston.

## Baskets (Carrying).

Morris &amp; Co., Yardville, N. J.

## Benzol.

Barrett Mfg. Co., Philadelphia.

Samuel Cabot, Boston.

## Black Hypo.

Joseph Cantor, New York.

Typke &amp; King, London, England.

## Boxes (Wood).

Henry H. Sheep &amp; Co., Philadelphia.

## Carbon Bisulphide.

George W. Speaight, New York.

## Chemicals.

Toch Bros., New York.

## Colors.

Joseph Cantor, New York.

Toch Bros., New York.

Typke &amp; King, London, England.

## Crude Rubber.

George A. Alden &amp; Co., Boston.

Otto Meyer, Boston.

Rubber Trading Co., New York-Boston.

## Drills.

J. H. Lane &amp; Co., New York.

## Duck (Cotton).

J. H. Lane &amp; Co., New York.

Morris &amp; Co., Yardville, N. J.

## Fabrics.

Holden, Leonard &amp; Co., Boston.

## Fossil Flour.

Fossil Flour Co., New York.

## Gutta-Percha.

George A. Alden &amp; Co., Boston.

Rubber Trading Co., New York-Boston.

## FACTORY SUPPLIES.

## Hose Bands, Straps, and Menders.

Boston Woven Hose &amp; Rubber Co.

William Yerdon, Fort Plain, N. Y.

## Hose Brands.

Boston Woven Hose &amp; Rubber Co.

H. B. Sherman Mfg. Co., Battle Creek, Mich.

Hose Pipes, Nozzles, and Couplings.

Boston Woven Hose &amp; Rubber Co.

Eureka Fire Hose Co., New York.

Revere Rubber Co., Boston.

## Infusorial Earth.

Stamford (Conn.) Rubber Supply Co.

## Lampblack.

Samuel Cabot, Boston.

## Lasts (Aluminum).

Metal Last &amp; Tree Co., Boston.

## Lawn-Hose Supporters.

C. J. Bailey &amp; Co., Boston.

## Lead—Blue.

Fisher Lead Co., Chicago, Ill.

## Lead—Sublimed White.

Fisher Lead Co., Chicago, Ill.

## Manufacturers' Supplies.

Rubber Trading Co., New York-Boston.

Stamford (Conn.) Rubber Supply Co.

## Naphtha.

Barrett Mfg. Co., Philadelphia.

## Oils.

Akron Commercial Co., Akron, O.

## Paris White and Whiting.

H. F. Lantier Mfg. Co., New York.

## Pitch.

E. B. Weed &amp; Co., Fayetteville, N. C.

## Reclaimed Rubber.

Bloomingdale (N. J.) Soft Rubber Co.

Manufactured Rubber Co., Philadelphia.

New Century Rubber Co., Philadelphia.

New Jersey Rubber Co., Lambertville, N. J.

Pequanoc Rubber Co., Butler, N. J.

Philadelphia Rubber Wks., Philadelphia.

Raymond Rubber Co., Titusville, N. J.

Jos. Stokes Rubber Co., Trenton, N. J.

U. S. Rubber Reclaiming Wks., N. Y.

## AGENTS AND DEALERS.

G. Brice, Paris, France.

W. C. Coleman, Boston, Mass.

Philip McGroarty, Trenton, N. J.

H. P. Moorhouse, Paris, France.

Rubber Trading Co., New York-Boston.

Wm. Somerville's Sons, Liverpool, Eng.

## Rubber Waste.

Wm. H. Cummings &amp; Sons, New York.

W. C. Coleman, Boston, Mass.

J. H. Stedman &amp; Co., Inc., Boston.

United States Waste Rubber Co., Brock-

ton, Mass.

## Scrap Rubber.

Bers &amp; Co., Philadelphia.

# THE REPUBLIC RUBBER CO.

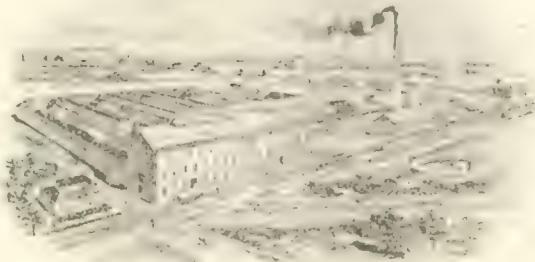
MAIN OFFICE AND FACTORY  
YOUNGSTOWN, OHIO

AGENCY  
JOHNSTON, MOREHOUSE & DICKEY  
PITTSBURGH

BRANCH STORE  
47 WARREN STREET  
NEW YORK

AGENCY  
H. CHANNON COMPANY  
CHICAGO

We are offering some  
exceptional values in  
**GARDEN HOSE**  
for 1903



It will be to your interest  
to get our  
**SAMPLES and PRICES**  
before ordering elsewhere

## Belting, Hose, Packing, Matting and Molded Goods

We guarantee our TONKA RED SHEET PACKING to be unsurpassed

*Link (Black Sheet) Packing, Spiral Red Core, Rubber Backed,  
Square Duck and Hydraulic Packings*

Illustrated 120 Page Catalogue sent free upon request

*Mention the India Rubber World when you write*

## Invest in Shares of La Zacualpa Rubber Plantation.



OUR TWELVE YEAR OLD TREES PRODUCING RUBBER.

Interest payable January and July from the actual production and sale of rubber from cultivated trees.

This PLANTATION is acknowledged to be the one company that has done something and actually solved the problem of rubber cultivation.

It is highly endorsed from every source and its shares afford an investment not to be overlooked.

### LA ZACUALPA RUBBER PLANTATION,

No. 713 MARKET STREET,

SAN FRANCISCO, CALIFORNIA.

EASTERN REPRESENTATIVES:

**BROOKS BROTHERS & COMPANY,**

No. 35 WALL STREET,

NEW YORK.

*Mention the India Rubber World when you write.*



# REVERE RUBBER COMPANY.

Manufacturers of a  
HIGH CLASS of 

## MECHANICAL RUBBER GOODS.

### HOME OFFICE:

77 Bedford and 72 Kingston Streets,  
BOSTON, MASSACHUSETTS.

### BRANCHES:

NEW YORK, N. Y., 59 Reade Street.  
PITTSBURG, PA., 2-8 Wood Street  
CHICAGO, ILL., 168 Lake Street.  
MINNEAPOLIS, MINN., 210 Nicollet Avenue.  
NEW ORLEANS, LA., 410 Carondelet Street.  
SAN FRANCISCO, CAL., 527 Market Street.

### FACTORIES:

CHELSEA, MASSACHUSETTS.

*Mention The India Rubber World when you write.*

# HIGH GRADE RUBBER GOODS

(MADE IN CANADA)

**BELTING  
PACKINGS  
VALVES  
VALVE SHEET  
TUBING  
and  
GASKETS**

**RUBBER HOSE**

-FOR-

**WATER  
SUCTION  
STEAM  
AIR  
Fire Protection  
ACIDS  
BREWERS  
Pneumatic Tools**

SUPERIOR  
.. IN ..  
QUALITY

SATISFACTORY  
.. IN ..  
SERVICE



Sole Manufacturers of the celebrated "MALTESE CROSS" and "LION" Brands Rubbers.  
The best fitting, best wearing and most stylish rubber footwear on the market.

SPECIAL ATTENTION GIVEN TO EXPORT ORDERS



## The Gutta Percha & Rubber Mfg. Co. of Toronto Ltd.

Mention The India Rubber World when you write.

Head Office Warerooms—45-49 Front St., W., TORONTO, CANADA.

= = THE = =

# GRANBY RUBBER CO.

HIGHEST GRADE

## RUBBER BOOTS, SHOES, AND CLOTHING.

### Factories: GRANBY, QUEBEC.

S. H. C. MINER, President,  
J. H. McKECHNIE, Gen'l Mgr.

Mention The India Rubber World when you write.

### BOUND VOLUMES

- - OF - -

### THE INDIA RUBBER WORLD

Make a desirable addition to the office equipment or the private library of any man who is interested in any branch of the rubber business.

The twelve monthly numbers from October, 1901, to September, 1902, inclusive, have been bound in half Morocco, forming a handsome and durable volume.

**Price, \$5.00, Prepaid.**

Back volumes at the same price.

**THE INDIA RUBBER PUBLISHING CO.,**  
No. 150 Nassau Street, New York.

# GORHAM RUBBER COMPANY,

Manufacturers and Distributors for the Pacific Coast and the Orient

OF RUBBER GOODS OF EVERY DESCRIPTION.

MAIN OFFICE: **SAN FRANCISCO, CALIF.** BRANCH: **SEATTLE, WASHINGTON.**

Mention The India Rubber World when you write.

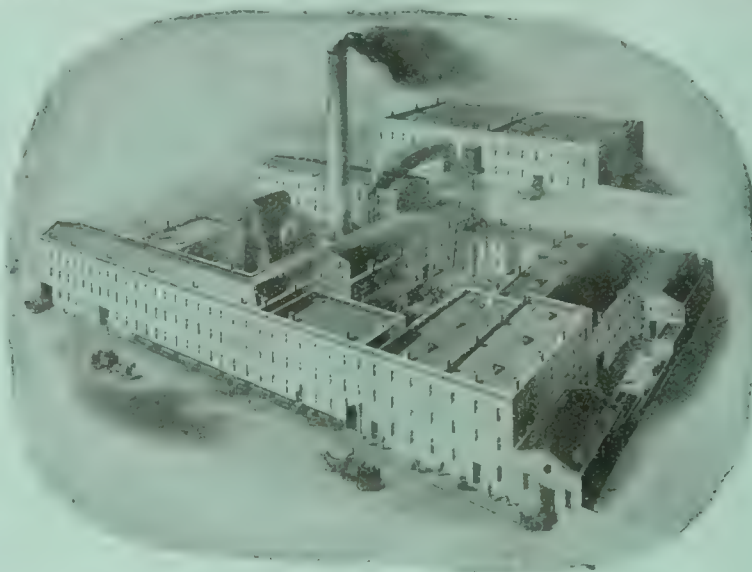


# THE GUTTA PERCHA & RUBBER MFG. CO.

ESTABLISHED 1855

MANUFACTURERS OF

**Rubber Belting, Packing, Hose, Mats, Matting**  
AND MECHANICAL RUBBER GOODS OF EVERY KIND.



## WAREROOMS:

Nos. 126-128 Duane St.  
NEW YORK.

## BRANCH STORES:

96-98 Lake St., CHICAGO.  
71 Pearl St., BOSTON.  
221 Chestnut St., PHILADELPHIA  
30 & 32 Fremont St.,  
SAN FRANCISCO.

A. SPADONE, Pres.

HENRY SPADONE, Vice-Pres.

*Mention the India Rubber World when you write.*

MATTHEW HAWE, Treas.

**SIX YEARS YOUNG  
AND STILL GROWING**

Growing in Quality  
of Product  
Growing in Sales  
Growing in Popularity  
Not made by a TRUST

**HOOD RUBBER COMPANY  
BOSTON**

*Mention The India Rubber World when you write.*

1856 — FORTY-SEVEN YEARS — 1903

EXPERIENCE

**TYRIAN  
DRUGGISTS'  
RUBBER GOODS**

OF ALL DESCRIPTIONS.

RUBBER MOULD WORK A SPECIALTY.

**TYER RUBBER COMPANY,  
Andover, Mass.**

*Mention The India Rubber World when you write.*

The BEST BUCKLES for ARCTICS  
ARE MADE BY  
THE WELD MFG. CO.,  
41 Lincoln Street, - - Boston.

"Cravenette"  
RAIN COATS

Must have this Circular  
Trade Mark stamped in  
inside of coat.....



# INDIA RUBBER WORLD

CAOUTCHOUC  
HEVEA BRASILIENSIS

DICHOPSIS GUTTA

GUTTA-PERCHA

Edited by HENRY C. PEARSON—Offices, No. 150 Nassau Street, NEW YORK.

Vol. XXVIII. No. 3.

JUNE 1, 1903.

35 Cents a Copy.  
\$8.00 Per Year.

## THE ALDEN RUBBER CO., BARBERTON RUBBER WORKS, MANUFACTURERS OF RUBBER GOODS.

The  
MASTER KEY  
Rubber Tiling.

Noiseless,  
Non Conducting,  
Non Slipping.

The ideal floor for  
Offices, Banks, Vesti-  
bules, Elevators and  
especially for places  
where electrical cur-  
rents abound.

Beautiful Color Effects.  
Designs Furnished.



THIS TRADE MARK GUARANTEES FULL VALUE.

BICYCLE,  
AUTOMOBILE  
AND  
VEHICLE  
TIRES,  
HOSE,  
PACKING,  
VALVES.  
MOLDED  
GOODS,  
FRUIT JAR  
RINGS.  
WHITE  
TUBING.

AKRON, OHIO and BARBERTON, OHIO, U.S.A.  
Akron Office, Arcade Block—Main Office and Works at Barberton

LONG DISTANCE TEL., AKRON EXCHANGE NO. 999.  
CABLE ADDRESS "ARCO AKRON."

Mention the India Rubber World when you write

**LAMPBLACKS especially for RUBBER MANUFACTURE.**  
SAMUEL CABOT, BOSTON, MASS



# SINGER MACHINE

No. 44-13

**T**HIS is a new machine especially devised for stitching the **Binding on Rubber Dress Shields** for which purpose it has already come into extensive use, and with marked success.

MACHINES SHOWN IN PRACTICAL OPERATION AT

NEW YORK—Broadway and Prince Street.

BALTIMORE—11 North Charles Street.

BOSTON—128-132 Essex Street.

CHICAGO—260-262 Fifth Avenue.

PHILADELPHIA—1210 Chestnut Street.

CINCINNATI—115 West Third Street.

ST. LOUIS—1124 Olive Street.

TROY, N. Y.—251 River Street.

INDIANAPOLIS, IND.—126 West Washington Street.

ST. PAUL, MINN.—402 Jackson Street.

CLEVELAND—52 Water Street.

KANSAS CITY MO.—1209 Grand Avenue.

**THE SINGER MANUFACTURING CO.**

SALESROOMS IN EVERY CITY.

*Mention The India Rubber World when you write.*



**BEST IN THE MARKET**

## Cable's Carriage Cloth

*New Factory Buildings.*

*New Machinery.*

*Prompt Shipments.*

*Samples Freely Furnished.*

**CABLE RUBBER COMPANY,**

Factory and Office: JAMAICA PLAIN, MASS.

*Mention The India Rubber World when you write.*



### For General Compounding

"M.R." makes a perfect union with rubber. Prevents blistering, and the harsher action of free Sulphur. Absolutely acid proof. Has been used regularly by Rubber Manufacturers for the past three years.

GEO. A. ALDEN & CO., Boston, Mass.

# Forsyth Combination Metal Insertion Packing



Patented April 11, 1899.

will satisfactorily withstand the heat of high pressure steam. It is a high grade rubber packing with one or more plies of pliable sheet metal insertion. A successful packing that satisfies where other packings fail.

## CAUTION.

As the exclusive manufacturers of sheet metal insertion rubber packing, under a patent issued April 11, 1899, to James Bennett Forsyth, we caution all parties against making, selling or using any rubber packing with sheet metal insertion that in any way infringes said patent.

**Our line of Packings for all purposes  
is most complete.** We solicit your  
inquiries...

**BELTING,  
HOSE of all kinds.  
GASKETS, VALVES,  
DECKLE STRAPS.**



The Trade Mark of Excellence.

**RUBBER COVERED  
ROLLERS.  
MATS, MATTING, TUBING,  
Etc.**

# BOSTON BELTING CO.

JAMES BENNETT FORSYTH, Genl. Mgr.

**Original Manufacturers of VULCANIZED RUBBER GOODS.**

Boston,	New York,	Buffalo,	Chicago,	St. Louis,	Milwaukee,	St. Paul,	Seattle,
Philadelphia,	Baltimore,	Atlanta,	Mobile,	New Orleans,	Memphis,	Cincinnati,	
Pittsburgh,	Detroit,	Cleveland,	Indianapolis,	Kansas City,	San Francisco,	Portland.	

*Mention The India Rubber World when you write.*





GOLD MEDAL AWARDED  
at  
PAN-AMERICAN EXPOSITION,  
1901.

## EUREKA FIRE HOSE CO.,

13 BARCLAY ST., NEW YORK.

MANUFACTURERS OF THE CELEBRATED BRANDS

“RED CROSS” (One Ply) “PARAGON” (Two Ply) “EUREKA” (Three Ply)  
“U. S.” Brand Rubber Lined Cotton Fire Hose

Adopted as the Standard Factory Fire Hose by the Associated Factory Mutual Fire Insurance Companies, for Factory and Mill Fire Protection.

COTTON and LINEN HOSE of all grades, both plain and rubber-lined. All sizes.

These Goods are especially adapted for use in Woolen, Cotton, Silk, Print, Knit Goods and Carpet Mills, Dyeing and Bleaching establishments, Pulp and Paper Mills, Breweries and Distilleries, Sugar Refineries, Ice and Refrigerating Machinery, Chemical Works, Tanneries, etc. Samples and full information given on application.

## COTTON HOSE,

We Spin, Weave, and Line Our Own Goods.

## GARDEN HOSE,

New Lines—New Methods.

## BELTING and PACKING.

Empire Rubber Mfg. Co.,

NEW YORK.

CHICAGO.

BOSTON.

ST. LOUIS, MO.

Factories: TRENTON, N. J.

*Mention the India Rubber World when you write.*

## CONTINENTAL TYRES, CONTINENTAL MECHANICAL RUBBER GOODS.

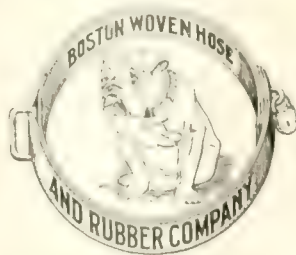
CONTINENTAL CAOUTCHOUC & GUTTAPERCHA CO.,  
Hanover, Germany.

*Mention The India Rubber World when you write.*

The Best Yet.....

# BULL DOG PACKING.

Nothing is too warm  
for our Bull Dog.



The hotter the flange  
the better the grip.

Made of alternate layers of plumbago and red sheet, layers of plumbago being on the surfaces. Under heat the plumbago conforms to any unevenness, hardens and protects the red sheet, which makes a firm and elastic cushion.

A combination of the best qualities of plumbago packing, with the elasticity and durability of the highest grade of red packing.

....Write for samples and prices....

**BOSTON WOVEN HOSE & RUBBER CO.,**

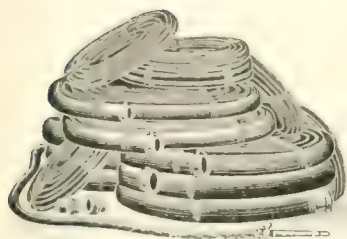
**Executive Offices and Factories, CAMBRIDGE, MASS.**

BRANCHES: New York, Chicago, Cleveland, Pittsburg, San Francisco, Buffalo, St. Louis, Philadelphia.

*Mention The India Rubber World when you write.*

"ALL GOODS BEARING OUR BRAND ARE FULLY GUARANTEED."

## HIGH CLASS RUBBER GOODS.



### NEW PLANT

The most improved machinery,  
Up-to-date methods coupled with  
experienced workmen and capable  
supervision enable us to meet  
any competitor and give us  
an advantage over many.

### We Make

Hose, Belting, Packing, Valves, Gaskets, Mats,  
Matting, Linen and Cotton Hose,

and many specialties as well as they can be made when the ability to turn out first grade goods is united with the willingness to do so.



Our "Nubian" Packing is adapted for high or low pressure. It is guaranteed to stand higher temperature than any other packing, and will retain its strength and pliability under conditions that destroy other packings. Flat and Tubular Gaskets made from "Nubian" Stock.

## Voorhees Rubber Manufacturing Co.

BRANCH STORE:

175-177 Lake St., Chicago.

*Mention The India Rubber World when you write.*

18-40 BOSTWICK AVENUE,  
JERSEY CITY, NEW JERSEY.



# HODGMAN'S

## Alexombric Rain Coats.



Unequalled for fit, finish and style.

Up-to-date in every way.

**HODGMAN RUBBER COMPANY,**

806-808 BROADWAY—Opposite Eleventh Street,

NEW YORK.

*Mention The India Rubber World when you write.*



**BEFORE YOU PLACE YOUR CONTRACT**

**....FOR....**

**GARDEN HOSE**

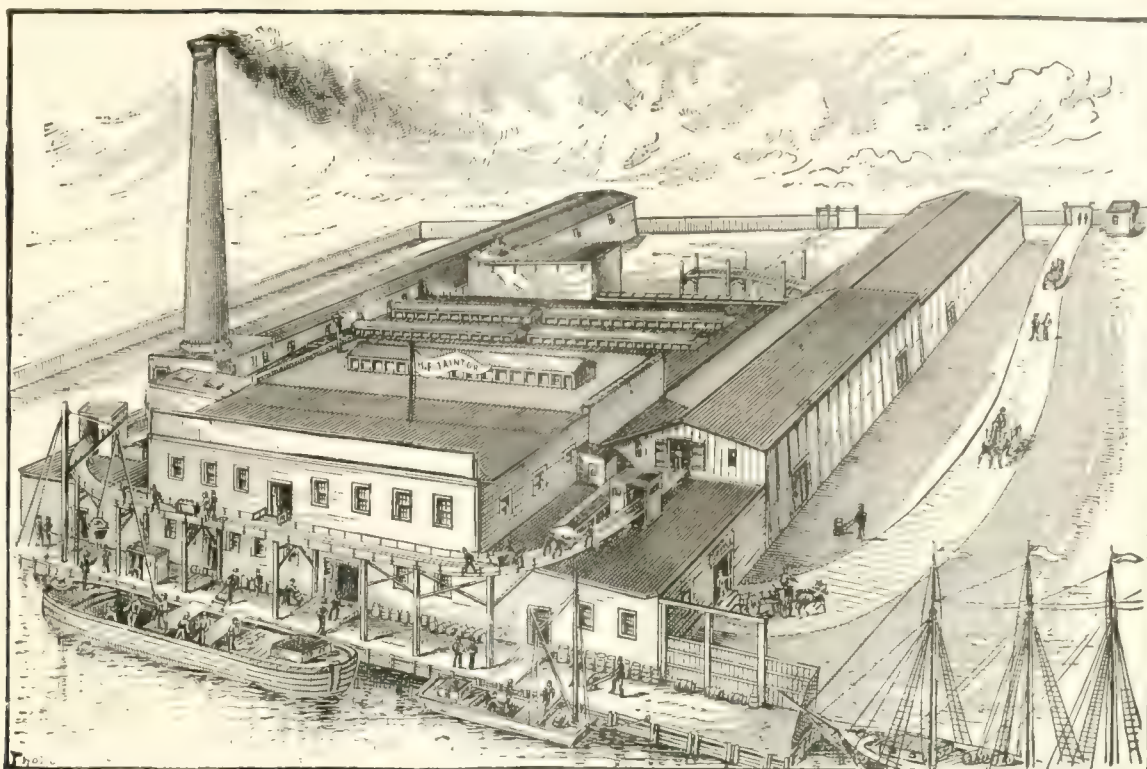
**WRITE US FOR SAMPLES AND PRICES.**

**TEN DISTINCT GRADES, EVERY ONE A WINNER.**

**CRESCENT BELTING & PACKING Co.**

**TRENTON, N. J.**

*Mention The India Rubber World when you write.*



## The H. F. Taintor Mfg. Co.

are the largest manufacturers of Whiting and English Cliffstone Paris White in this country.

All grades of Whiting prepared especially for use of Rubber Manufacturers, finely ground and bolted and *very* dry.

The "Westminster" brand of English Cliffstone Paris White is the finest made in the world, and is particularly suited to manufacturers of fine Rubber goods and specialties.

Samples can be had by mail.

Address

***No. 101 Beekman St.,  
New York City.***

*Mention The India Rubber World when you write.*



FACTORIES AT MATTEAWAN, DUTCHESS CO., N. Y.

# NEW YORK RUBBER COMPANY.

INCORPORATED 1851.

Manufacturers of

**BELTING,  
HOSE,  
PACKING,  
ETC.**

**OF SUPERIOR QUALITIES.**

WAREHOUSE AND OFFICE:

**84 AND 86 READE, COR. OF CHURCH STREET, NEW YORK.**

Address P. O. Box 1160.

**HIGH GRADE  
Lawn and Garden Hose  
A SPECIALTY.**

**HIGH GRADE  
Lawn and Garden Hose  
A SPECIALTY.**

*Mention The India Rubber World when you order.*

## BELTING



FOR  
**Transmitting  
Elevating  
Conveying**

## JAR RINGS WASHERS BANDS PACKING



FOR  
**Steam  
Water  
Oil  
Acids  
Air, Etc.**

## GRAIN DRILL TUBES MOLDED WORK CUSHION TIRES BABY CAB TIRES VALVES



## HOSE

FOR  
**Steam  
Water  
Oil  
Acids  
Suction  
Air, Etc.**

**THE WHITMAN & BARNES MFG. CO.**

Kansas City  
New York  
Chicago

RUBBER WORKS,

AKRON, OHIO

London

St. Catharines  
Cincinnati  
Syracuse

*Mention The India Rubber World when you order.*

It is Oil Proof,  
It is Acid Proof.



*It is perfection for a Steam Joint.*

*Try It.*

*You will have the proof.*



# NEW JERSEY CAR SPRING & RUBBER CO.

General Offices and Works, - - - Jersey City, N. J.  
New York, - - - - - 10 Barclay St.  
Cleveland, - - - - - 190 Seneca St.

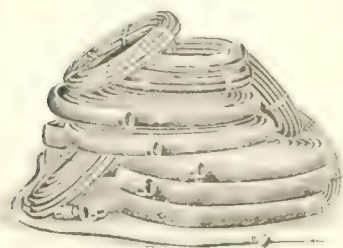
CHICAGO, ILL.

Distributing Agents, W. D. Allen Mfg. Co.,  
151 Lake St.

MANUFACTURERS OF

## High Grade Rubber Goods

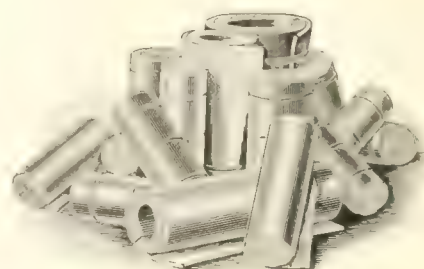
"Our name and brand a guarantee of quality."



Air Brake Hose Rubber Belting  
Steam Hose Steam Packing  
Fire Hose Mats and Matting  
Water Hose Valves, etc.

"Diamondine" Red Sheet Packing  
"Hemisphere" Rubber Matting  
Rubber Lined Cotton Fire Hose

Mechanical Rubber Goods for all purposes.



J. J. FIELDS, President.  
J. J. FIELDS, JR., Vice-Prest.

GEO. B. DICKERSON, Sec'y.  
TOWNSEND COCKS, Treasurer.

*Mention The India Rubber World when you write.*

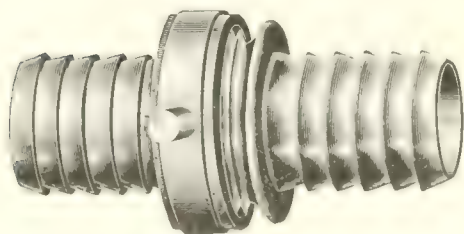
### Hose Couplings, Regular Shank.

Steam Hose Couplings

Automatic Couplings

Pipes, Caps, Nipples,

Lawn Sprinklers.



A full line of Staple Hose Brass Goods, made from improved up to date patterns. Good metal and machine work. Write for catalogue and prices.

H. B. SHERMAN MFG. CO.,  
BATTLE CREEK, MICH.

*Mention The India Rubber World when you write.*

For HIGH GRADE

### Pneumatic Bicycle Tires and Solid Carriage Tires

Write to

**KOKOMO RUBBER CO.**

KOKOMO, INDIANA.

*Mention The India Rubber World when you write.*

### Lake Shore Rubber Co.

Manufacture Mechanical Rubber Goods,

**HOSE, BELTING, PACKING, VALVES,  
GASKETS, ELECTRICAL TAPE, OIL  
WELL SUPPLIES, Etc.**

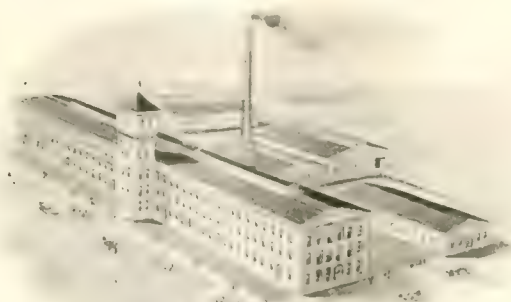
WRITE FOR PRICES AND SAMPLES.

Office and Works, ERIE, PA.

*Mention The India Rubber World when you write.*

# THE EUREKA RUBBER MFG. CO.

## OF TRENTON, NEW JERSEY.



Manufacturers of

**Rubber Carriage Drill and Duck, Cotton Rubber Lined Hose, and Mechanical Rubber Goods of Every Description.**

Factory strictly modern in design, with machinery of the latest and most approved description throughout, using only first class raw material, and producing nothing but reliable grades.

We solicit inquiries from the trade direct, or through our Branch Stores or Salesmen. We promise prompt attention to same.

FACTORY - - - TRENTON, N. J.

On the main line Pennsylvania R. R.

Branch Stores: **CHICAGO:**  
248 Randolph Street.

**NEW YORK:**  
55 Warren Street.

**BOSTON:**  
276 Devonshire Street.

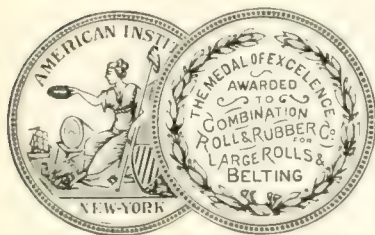
*Mention The India Rubber World when you write.*

# THE COMBINATION RUBBER and BELTING Co.,

Main Office and Works: Bloomfield, Essex County, New Jersey, U. S. A.

Salesroom:

157 CEDAR STREET,  
New York City, N. Y.



Salesroom:

198 RANDOLPH STREET,  
Chicago, Ill.



## Mechanical Rubber Goods.

# BELTING, HOSE, Etc.

SEND FOR CATALOGUE, PRICES AND SAMPLES.

TRIAL ORDERS SOLICITED.

*Mention the India Rubber World when you write.*



# THE MANHATTAN RUBBER MFG. CO.

CABLE ADDRESS  
MIALOGIA

18 VESEY STREET, NEW YORK.

7260 CORTLANDT  
TELEPHONES: 7261 CORTLANDT  
7262 CORTLANDT

BELTING  
HOSE  
PACKING  
TUBING  
MATTING  
ROLLS



GASKETS  
TILING  
MOULDED  
GOODS  
IN EVERY  
VARIETY

MAKERS OF

## Mechanical Rubber Goods.

Factories: PASSAIC, N. J., on D. L. & W. R. R.

*Mention The India Rubber World when you write.*

**Pennsylvania Rubber Company**  
JEANNETTE, Pennsylvania.



VIEW OF THE FACTORY.

MANUFACTURERS OF

Rubber Belts,

Fire, Air-Brake, Steam, Air, Water-Tank  
and Suction Hose.

"Century" Packing.

Gaskets.

Solid Rubber Tires.

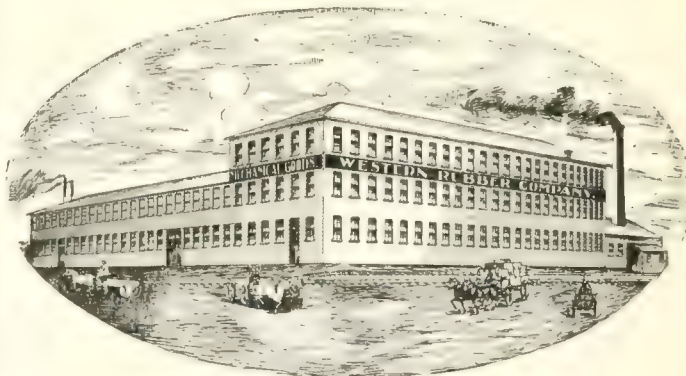
Automobile and Bicycle Tires and Sundries.

Rubber Valves.

All kinds of Molded Rubber Goods.

*Mention The India Rubber World when you write.*

**Western Rubber Company,**  
GOSHEN, - - - INDIANA.



...Manufacturers of...

Tires, Inner Tubes,  
Splicing Compound,  
Packing,

Rubber Horse Shoe Pads,  
Rubber Heels,  
Matting, Mats,  
Patented Specialties,  
Mould Work,

Plumbers' Supplies,  
Stamp Makers' Supplies  
Electrical Supplies,  
Sundries, Etc.

*Mention the India Rubber World when you write.*

New York Philadelphia Trenton, N. J. Chicago St. Louis Pittsburgh

35 WARREN ST.

208 N. 4th ST.

MAIN OFFICE

21 So. CANAL ST. WAINRIGHT BLDG.

326 4th AVE.

FOR

# GARDEN HOSE

For the Season of 1903

—ADDRESS—

TRENTON RUBBER MFG. CO.

Trenton, N. J.

*We would be glad to send Samples and Quote.*

*Mention The India Rubber World when you write.*



ESTABLISHED 1874.

## DAVOL RUBBER COMPANY

MANUFACTURERS OF  
FINE RUBBER GOODS  
IN SOFT AND HARD RUBBER

PROVIDENCE, RHODE ISLAND, U.S.A.

*Mention The India Rubber World when you write*

## THE FAULTLESS RUBBER CO.

AKRON, OHIO, U. S. A.

MANUFACTURERS OF

High Grade Seamless and  
Seamed Rubber Goods  
and Specialties.

CORRESPONDENCE SOLICITED.

*Mention The India Rubber World when you write.*

## DAVIDSON'S

R

U

G

G

I

S

T

S

Syringes,

Atomizers,

Nipples,

Sheeting,

Tubing,

Urinals,

Water Bottles,

Golf Balls,

AND

Special Goods To Order.

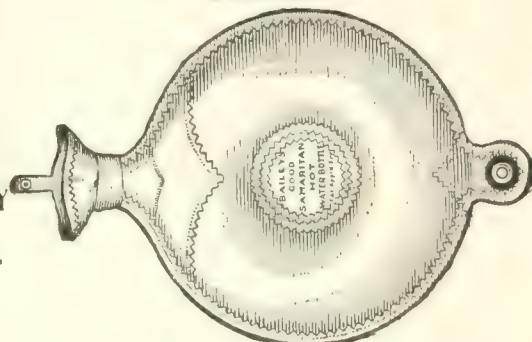
Davidson Rubber Co.,

19 Milk Street, BOSTON, MASS., U. S. A.

*Mention The India Rubber World when you write.*

## Bailey's "GOOD SAMARITAN" Hot Water Bottle.

(TRADE MARK)

IT  
FITS  
EVERY  
SPOT.SOFT  
AS A  
PIL-  
LOW.

MADE hollow disk in shape it adjusts itself to all parts of the body, and lays on it without holding or strapping. Being only about half the thickness of the ordinary water bottle, when filled, it is easy to place under the patient and comfortable to lie on.



For pain in the ear, teeth or face, the hollow disk gives to the affected parts hot air or steaming by placing in it a sponge wet with spirits or water.



Buttoning the two ends of the bottle together makes a perfect heater for the feet or to stand next to the body.

Only the best of material and workmanship are used in its construction, and every bottle is guaranteed.

5 inch diameter.....	Face Size, \$ 7.50 Doz.
8 inch diameter.....	10.00 "
10 inch diameter.....	12.00 "
11 inch diameter.....	15.00 "

—MANUFACTURED BY—

DAVOL RUBBER Co., Providence, R. I. TYER RUBBER Co., Andover, Mass.  
 THE B. F. GOODRICH Co., Akron, O. THE SEAMLESS RUBBER Co., New Haven.  
 HODGMAN RUBBER Co., New York. HARDMAN RUBBER Co., Belleville, N. J.  
 IDEAL RUBBER Co., Brooklyn, N. Y. MECHANICAL RUBBER Co., Cleveland.  
 C. J. BAILEY & CO., Patentees, No. 22 Boylston Street, Boston.

## THE PURE GUM SPECIALTY CO.,

BARBERTON, OHIO,

MANUFACTURERS OF

TUBING (All kinds), PURE GUM GLOVES (Any weight).

STEAM CURED GLOVES, HOUSEHOLD GLOVES

(Any color), FINGER COTS (All kinds),

FACE MASKS, ICE BAGS, ICE

CAPS, SLEEVES, NIPPLES,

BEAUTY BRUSHES.

Moulded Goods A Specialty.

RUBBER SPECIALTIES OF ALL KINDS.

ALL GOODS GUARANTEED.

*Mention The India Rubber World when you write.*

# AMERICAN HARD RUBBER CO.,

THE INDIA RUBBER COMB CO.  
THE BUTLER HARD RUBBER CO.  
THE GOODRICH HARD RUBBER CO.

9-13 MERCER STREET, NEW YORK, U.S.A.

MANUFACTURERS OF

## COMBS, SYRINGES, CROWN WATER BOTTLES, DRUGGISTS' & STATIONERS' SUNDRIES.

EVERY DESCRIPTION OF HARD RUBBER GOODS.

*Mention The India Rubber World when you write.*

DR. H. TRAUN & SONS, Formerly

### Harburg Rubber Comb Co.

HARBURG AND HAMBURG, (GERMANY).

Manufacturers of  
all kinds of

**HARD  
RUBBER  
GOODS.**



SOLE MAKERS OF THE CELEBRATED

SPECIALTY:

**HARD  
RUBBER  
COMBS.**

Olive Doré, Helios, Reform and Sawing Man

BRANDS OF COMBS.

HEADQUARTERS FOR THE UNITED STATES:

**SCHRADER & EHLERS,**  
335 BROADWAY, NEW YORK.

*Mention The India Rubber World when you write.*

## YATMAN RUBBER CO.,

### MOULDED SPECIALTIES

### IN SOFT RUBBER.

### ERASIVE RUBBER.

OFFICE AND FACTORY:

No. 608 Passaic Avenue,  
HARRISON, N. J.

TELEPHONE:  
523 HARRISON.

WRITE FOR ESTIMATES.

*Mention The India Rubber World when you write.*

## SYRINGE BOXES

OF WHITE WOOD, BASS, OAK, ASH, &c  
FINE WORK. LOW PRICES. PROMPT SHIPMENT.

*Estimates and Samples Furnished on Application.*

ALSO ANY OTHER KIND OF

## FANCY WOOD BOXES MADE TO ORDER

Extensive Facilities enable us to Guarantee Satisfaction.

### Henry H. Sheip Mfg. Co.

1702-10 RANDOLPH ST., - PHILADELPHIA, PA.

*Mention The India Rubber World when you write*

MOLD WORK A SPECIALTY.

## SPONGES

We are the first in  
the United States to  
make Rubber  
Sponges. Call for  
samples and prices.

### CHICAGO TIRE & RUBBER CO.

329-331 West Kinzie Street, - - CHICAGO, ILL.

*Mention The India Rubber World when you write.*

## The Akron Commercial Co.,

Animal, Vegetable and Fish Oils,  
Chemicals and Supplies for - - -

### POTTERIES, PLATERS AND RUBBER MANUFACTURERS.

WAREHOUSE AND TRANSFER,  
MANUFACTURERS' AGENTS, Etc.

### AKRON, OHIO.

Office: 366 SOUTH MAIN STREET. Telephone, 894.

Warehouse: WEST CENTER STREET. " 422.

*Mention The India Rubber World when you write.*

## The Tropical Agriculturist.

PUBLISHED MONTHLY BY

A. M. & J. FERGUSON, COLOMBO, CEYLON.

ALL about Tea, Coffee, Cacao, Tobacco, Cardamoms, Cotton, Cinchona, Sugar,  
Liberian Coffee, India-rubber, Cinnamon, Cassia, Cocoanuts, Palmira and other  
Palm Trees, Aloes and other Fibre Plants, Rice, Fruit Trees, Vegetables, Citronella  
and other Grasses yielding Essential Oils, Gum, and other Tropical Products.

Rates of Subscription for America, including postage.

YEARLY, \$5 50. IN ADVANCE, \$3 00.

HALF YEARLY, \$3 00. " " \$2 60.

The whole sixteen volumes published can be had for \$8.

## The Ceylon Observer

CIRCULATES throughout the island of Ceylon, and in Southern India. Its Over-  
land Edition circulates extensively in Great Britain and Ireland. Annual sub-  
scription, \$15 00. Overland edition, Weekly, \$8 00. The Advertising Rates  
are moderate. Special quotations given for Trade Advertisements, appearing for a  
series of insertions.

Maps of Ceylon and Estates. Ceylon Directory. Planting Manuals, etc.  
Cheques should be drawn in favor of the MANAGER, Ceylon Observer.

*Mention The India Rubber World when you write.*



In Every  
Essential  
Requirement

BANIGAN  
RUBBERS

Are Unexcelled



SEND YOUR ORDERS TO 

Edward R. Rice, Buffalo.

C. L. Weaver & Co., Boston.

Edward R. Rice, Chicago.

American Hand Sewed Co., Omaha.

Linthicum Rubber Co., Baltimore.

*Mention The India Rubber World when you write.*

WEAR THE

**CHAMPION**  
**TENNIS SHOE**

MADE IN WHITE BLACK AND BROWN

THE CHAMPION

**Do you sell the "Champion" Tennis? If so, you ought to have this Banner.**

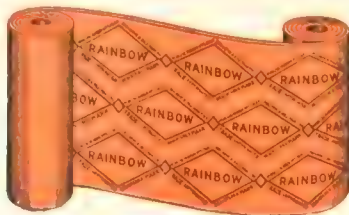
It is 10x23 inches, printed in nine colors, and everybody says it's handsome. If you sell the U. S. Rubber Co. Tennis goods, ask your jobber to put a couple of these banners in your next Tennis shipment - one for your window and one for your wall.



## RAINBOW PACKING.

Makes a Steam Flange and Hot Water Joint Instantly.

Don't have to use wire and cloth  
to hold Rainbow.  
Can't blow it out.



Thousands of Imitators.  
No Equal.  
Will Hold Highest Pressure.

THE COLOR OF RAINBOW PACKING IS RED.

None Genuine without our Trade Mark, the word "Rainbow" in a Diamond in black in three rows of Diamonds extending throughout the entire length of each and every roll of Rainbow Packing.

## Peerless Rubber Fire Engine Hose.

We would call the attention of those desiring to purchase Fire Hose to the fact that we have in the New York Fire Department, Hose which has been in **constant use for over eight years and shows no sign of giving out.**

## Peerless Suction Hose.

Our Peerless Steel-Clad Suction Hose has become a general favorite among Firemen. It has been adopted as the standard by some of the largest City Fire Departments in the United States and foreign countries.

We guarantee this hose in every respect, and can repair it when damaged.

## RUBBER HOSE.

CONDUCTING,  
GARDEN,

Peerless,  
Lakeside,  
Red Lable,  
Crown,  
Knicker,  
Made any diameter.



ENGINE,  
HYDRANT.

Rainbow Ribbon,  
Sterling,  
Reliance,

Made only in  $\frac{1}{2}$  and  
 $\frac{3}{4}$  inch.

## Fortune Seamless Rubber Belt.

Absolutely the finest and most durable  
Rubber Belt yet produced.

Every belt tested before leaving factory.



We have the most modern and extensive  
belt machinery in the world and guarantee  
satisfaction in every instance.

Copyrighted and Manufactured Exclusively by

THE PEERLESS RUBBER MANUFACTURING COMPANY,

16 WARREN STREET, NEW YORK.

16-24 Woodward Ave., Detroit, Mich.  
209-211 Magazine Street, New Orleans, La.

202-210 S. Water St., Chicago, Ill.

634 Smithfield Street, Pittsburg, Pa.

17-23 Beale St., and 18-21 Main St., San Francisco, Cal.

1221-1223 Union Avenue, Kansas City, Mo.

Mention The India Rubber World when you write.



Published on the 1st of each Month by

## THE INDIA RUBBER PUBLISHING CO.

No. 150 NASSAU ST., NEW YORK.

HENRY C. PEARSON,  
EDITOR.HAWTHORNE HILL,  
ASSOCIATE.

Vol. 28.

JUNE 1, 1903.

No. 3

SUBSCRIPTIONS: \$3.00 per year, \$1.75 for six months, postpaid, for the United States and Canada. Foreign countries, same price. Special Rates for Clubs of five, ten or more subscribers.

ADVERTISING: Rates will be made known on application.

REMITTANCES: Should always be made by bank draft, Post Office Order or Express Money orders on New York, payable to THE INDIA RUBBER PUBLISHING COMPANY. Remittances for foreign subscriptions should be sent by International Post order, payable as above.

DISCONTINUANCES: Yearly orders for subscriptions and advertising are regarded as permanent, and after the first twelve months they will be discontinued only at the request of the subscriber or advertiser. Bills are rendered promptly at the beginning of each period, and thereby our patrons have due notice of continuance.

COPYRIGHT, 1902, BY

THE INDIA RUBBER PUBLISHING CO.

Entered at New York Post Office as mail matter of the second-class.

## TABLE OF CONTENTS.

Editorial:	PAGE.
The Coming St. Louis Exposition.....	289
The Boom in Small Mold Work.....	290
Surface Clothing Again in Favor.....	290
One Man and a Going Concern.....	290
The Rush for Garden Hose.....	290
Ceylon Rubber at the Custom House.....	290
A Tall Hold and a Down-Hill Pull.....	291
Minor Editorial.....	291
Literature of India-Rubber.....	292
Rubber Planting on the Isthmus of Tehuantepec—II..... <i>The Editor</i>	293
Prosperous Private Plantations—"La Ventura," "La Junta," and "Ixtal;" No Barren Rubber Trees. Conditions for Successful Rubber Planting. Dry and Rainy Seasons. The Native "Mozo," Negro Labor. Absence of Plant Pests.	
[With Ten Illustrations.]	
The India-Rubber Trade in Great Britain.....	299
[Our Regular Correspondent	
Notes from France. The Proving Trade. Rubber Sponges. Dunlop Tire Affairs. Rise in Price of Mechanical Rubber Goods. Pirrell & Co. Gutta percha in British North Borneo.]	
India-Rubber Interests in Europe.....	301
[First Belgian Rubber Manufacturer. Rubber Industry in Italy. Patent Suit Won by the Dunlops. Craigpark Electric Cable Co. Liverpool Electric Cable Co. Rubber Goods Higher in Austria-Hungary. Notes.]	
Annual Meeting of the New England Rubber Club.....	303
"Civilisation in Congoland".....	304
New Goods and Specialties in Rubber (Illustrated).....	305
[Morrison's Life Belt. Maccollini's Life Preserver. Harris's New Tire for Rubber Vehicles. Baumann Rubber Co.'s Novel Rubber Ball. "Monitor" Expansion Packing. The "B-O-K" Tire. Jones's Non-Slipping Heel.]	
Recent Rubber Patents [American, British, German].....	307
Annual Meeting of The United States Rubber Co.....	309
[Annual Reports. Boards of Constituent Companies.]	
The Textile Goods Market.....	311
An Interview with Colonel Albert A. Pope.....	315
[With Portrait.]	
Miscellaneous:	
Busy and Cheerful at Eighty Years.....	291
An Exhibition of "Galalith".....	305
Gutta Percha Compound.....	306
A Lathe for Hard Rubber (Illustrated).....	316
Rubber Shells in Artillery Practice (Illustrated).....	296
Rubber and Gutta-Percha Exploitation.....	317
News of the American Rubber Trade.....	318
The Rubber Trade in Trenton..... <i>Our Correspondent</i>	312
The Rubber Trade in Akron..... <i>Our Correspondent</i>	313
Review of the Crude Rubber Market.....	322

## THE COMING ST. LOUIS EXPOSITION.

WHILE THE INDIA RUBBER WORLD was in press last month the ceremonies were in progress at St. Louis of dedicating the extensive buildings constructed for the use of the Louisiana Purchase Exposition, to be held next year. The occasion was also the centennial anniversary of the purchase from France of the vast domain west of the Mississippi which now forms so important a part of the United States. No greater work of colonization or civilization has been accomplished in the history of the world, in so short a time, than in the building of the great states which now exist where, a hundred years ago, there was only a wilderness. While this paper is in press another celebration is just closing—that of the 250th anniversary of New York as a city. In 1653, when the city was founded by a Dutch charter, with 1000 inhabitants, on the island of Manhattan, then lately purchased from the Indians for \$24, the most of the North American continent above Mexico was practically a wilderness. To day New York ranks second among the cities of the world in population and wealth, and is growing at a greater rate than any of the other leading capitals. Nor is this growth at the expense of any other part of the country, but rather is it an exponent of the development of the United States as a whole.

It is true that St. Louis has been chosen as the site of the next great world's fair to celebrate the growth during the century of the great Central West, but it will be none the less a thoroughly American undertaking, representative of the whole country's progress. And this progress, for many reasons, has become a matter of vastly more concern to the rest of the world than in any past era, for which reason the industries abroad in which Americans have become competitors in the world's markets promise to be more fully represented at St. Louis than at Philadelphia in 1876, or at Chicago ten years ago. Though such considerations may be less appreciated here than in some other countries, the mere fact of the United States government being more intimately associated with the direction of the St. Louis fair will tend to give the occasion greater dignity in foreign eyes than any other of our great expositions, and lead to more liberal exhibits from abroad. But apart from this, the industrial progress made by the United States since the Chicago fair, and the increased importance which this has given us as a trading power, will invest the St. Louis exposition with an interest abroad never before felt in an American occasion of the kind—an interest manifested by both foreign exhibits and foreign visitors.

The India-rubber industry here has not been adequately represented in several extensive expositions held in the United States, and it might be suggested that it may be a mistaken idea for rubber manufacturers to class the coming event at St. Louis with some former fairs. The rubber industry here is now in a position to engage in export trade more extensively than ever before, and the St. Louis exposition should be taken advantage of for advertising this fact. It should lead to a new era in the American rubber industry.



## THE BOOM IN SMALL MOLD WORK.

IT was estimated ten years ago that the number of steam presses used in the manufacture of small molded articles in rubber in the United States was about 700; to day there are more than 2000. As a rule the business attaches itself to those factories that make mechanical rubber goods, but it also grows up gradually in plants that are devoted primarily to the manufacture of tires, druggists' sundries, etc. It is a very rare occurrence, however, when any of the producers of dry heat goods, such as boots and shoes, mackintoshes, or insulated wire, create such a department.

The remarkable growth of this line points to many conditions favorable both to the rubber business and to general industrial conditions. There is hardly a line of manufactured goods, of machines, of tools, or of artisans' creation, that does not call for some supplementary part made of rubber and for which there is no practical substitute. To a very large extent these supplementary articles of rubber are molded. Furthermore, every day adds to the list of such articles and the business grows quietly, but none the less vigorously.

It is by and large a very satisfactory business, for it means the development of a special knowledge of fitness in compounding and cure, as well as much experience and accuracy in the planning of molds, estimating of shrinkages, and economy in waste and handling. Nor is it a bad class of customers to have on one's books, for risks are distributed over a large territory, covering such a multitude that it would take a financial cyclone to involve the manufacturer in serious loss.

## SURFACE CLOTHING AGAIN IN FAVOR.

THERE are not wanting those who predict that the gossamer garment for both sexes will one day come back to favor and be as popular as it was a score of years ago. However this may be, it is certain that regulation surface clothing that for a time almost disappeared as a trade factor, has taken on a new lease of life, and if conditions continue will in a brief time be in as healthy a condition as ever. A potent reason for its decline lies, beyond the question of a doubt, in the fact that under the spur of fierce competition certain manufacturers burdened the rubber with a larger percentage of compound than it could stand and still retain its wearing and rain-resisting qualities. After a time such of the public as could find a substitute for rubber garments either in oil clothing, mackintoshes, shower proof goods, etc., forsook rubber entirely. The poor goods soon disappeared from the market, that is to a degree, while of better goods there was a fair and steady demand. Each one of these good garments has during the past few years been acting as a trade missionary to bring its type back into favor. Apparently the work has been in a measure successful, and there is no reason why sales cannot be constantly increased and the line remain in permanent favor if only good goods at fair prices are furnished.

## ONE MAN AND A GOING CONCERN.

ALL trades have him; yea, all professions. He may in a manufacturing proposition be manager, superintendent, or valued foreman, or even a skilled workman in charge of some special process. Whatever place he fills it is his belief and often that of his associates that he is absolutely indispensable, that if he were to leave all would go wrong, that dry rot would begin and the business shrink and shrink until it perished or he came back.

As a matter of fact, such an individual does not exist except in the imagination. No individual is necessary to the world's progress, happiness, or stability. Death teaches that daily by removing the human props to all sorts of enterprises, which if worthy stand just the same, nay, often are more firmly placed, more ready to expand along natural lines.

One has but to look back at the brilliant minds that once dominated the rubber trade, now passed beyond, to feel how futile it is for any one to arrogate to himself a position that cannot be filled by another.

Nor do the real leaders indulge in such self deception. It is the man of moderate attainment, of huge vanity, who believes that his resignation will stop the wheels of progress, that the house for which he has labored and helped to establish will fall unless his shoulder be under it. The chances are it will take a new lease of life, and the falling will come within his province.

This is not penned as a discourager to ambition, or to any who do not deserve it, but is simply a bit of thinking done on paper following the visit of one who is going to leave his old concern and carry his knowledge to a rival. The bet is that the former profits and the latter loses. Any takers?

## THE RUSH FOR GARDEN HOSE.

THREE weeks ago—in fact, ever since the hose season opened—it looked as if sales were to be light, and in consequence manufacturers did not stock up as they have been wont to do. With the advent of the sudden warm weather, however, and the drouth that extends over a very large area of the United States, has come a flood of hurry orders that have started every hose machine to running at its full capacity. This condition of affairs is both satisfactory and provoking. It means to the jobber and manufacturer a greater output, to be sure, but it also involves for the former a vexatious wait for goods, and to the latter greater cost in manufacture on account of extra pay for "overtime" workers, a higher price for cotton duck, and hindrance in other departments. As no weather prophet has yet qualified who has the confidence of this portion of the trade, is not the next best thing to strike an average of hose consumption for say ten years back, allow for increase of populations having waterworks, and both buyer and maker base the output on such estimates?

## CEYLON RUBBER AT THE CUSTOM HOUSE.

THE report that a government chemist in New York has discovered traces of sulphur in Ceylon rubber, and thus classed it among manufactured products, and therefore subject to a duty of 30 per cent. *ad valorem*, would be amusing, were it not that it may prove troublesome to both importers and rubber manufacturers. Many people of course will be doubtful as to whether any trace of sulphur was found in the rubber, in spite of the care with which the analysis was probably conducted. It is perfectly possible, however, that a certain amount of sulphur was found there, as Collins, in his work on

India-rubber, which is regarded very highly by the British, specifically advises the use of sulphur fumes in the coagulation of the *latex* of the *Hevea*. The fact of traces of sulphur coming from such fumes, used in coagulation, however, should not hinder such rubber from being classed as crude rubber, pure and simple. If it did, the presence of creosote from the smoke of the palm nut used in curing fine Pará rubber, the presence of alum in the Centrals, or of uric acid in the Africans that have been dried on the epidermis of the negro gatherers, should place all of these kinds in the class of manufactured rubber. The customs decision of course will not be sustained, for to begin with, the thought of the chemist is that the rubber has been compounded, and yet any manufacturer can prove to him that a "trace" of sulphur would never suffice to cure pure Pará rubber. Had he found 10 per cent. of flowers of sulphur mixed with the rubber, it would be altogether a different proposition. In the meantime, it behooves the importers to deal gently with the misguided chemist—indeed, to compliment him upon his efficiency in examining every new type of rubber that comes into the market, for the more he knows about such goods, the less often is he likely to err as he has in this case.

### A TAIL HOLD AND A DOWN-HILL PULL.

FROM Colorado Springs (Colorado) comes a report on a new substitute for India-rubber made from the skin of the "humble hog," referred to hereinafter as "h. h." According to the *Gazette* of the city mentioned, the inventor, a canny Scot, has been "hailed by scientific men and manufacturers with open arms, as his discovery makes less potent the fear that the world's supply of rubber will disappear." The h. h. is apparently the only interested party that has not thus hailed this new revolutionizer of the crude rubber supply. Specific details are not yet vouchsafed as to the process, except that the finished product emerges from a hydraulic press which expresses all moisture and air. The removal of last named element is of prime importance, for were the squeal of the h. h. to remain in product, it would give an embarrassing prominence to such goods as it entered into. Imagine an elegant automobile racing up the Fifth avenue, in New York, to the music of four plump h. h. tires! The inventor says further: "This substitute you will find will take the place of rubber, as it is more durable, has the same elasticity, and is not at all prohibitive in price. Much more compact and gristly than the skin of any other animal it resists the severe attrition on a rough road in a unique manner." [So does the h. h.] In fact the new substitute fairly "bristles" with value.

THE RUBBER INDUSTRY IN NEW JERSEY is one of those upon which the statistical office in that state reports every year in much detail. From the official figures given on another page of this Journal, for three years past, it would appear that there has been an annual increase in the amount of capital employed in the industry, in the value of materials used and of goods made, in the amount disbursed for wages, in the number of employés, and in the number of days the rubber factories were in operation. Presumably there was an increase also in the profits of the manufacturers, though this is a point not covered by the statistician. There is one respect, however, in which the improvement made in recent years is beyond question—the reputation of Jersey rubber goods. In times past many kinds of rubber goods have been made in New Jersey. Certain factories were operated for the purpose of placing on the market rubber goods at a lower price than was charged for the standard products of the leading factories elsewhere, with such results in the matter

of quality in some cases as to justify the use of the description "Made in Jersey" as a term of reproach. Ultimately, however, the trade generally learned to appreciate that a legitimate demand might exist for different grades of rubber goods, at correspondingly different prices, until the manufacture of cheap goods was no longer confined to New Jersey. On the other hand, the factories in that state found outsiders competing with them in their own distinctive lines of production. Then the New Jersey manufacturers began catering to the better classes of trade, with such success that to-day no better goods are made in any state, and no buyer now distrusts an article in rubber because it is "made in Jersey," or accepts it without hesitation because produced elsewhere.

ATTENTION IS AGAIN BEING CALLED to the unattractive lot of the rubber gatherers of tropical Africa. There can be no doubt that, left to their own choice, the Congo natives would prefer to leave all the rubber in the forest. But since these simple minded people either won't be or can't be civilized—though it may seem a harsh statement of the question—their choice in the matter doesn't count. So-called civilized nations, however, owe it to themselves not to become parties to a policy of killing these ignorant human creatures simply because ordinary inducements do not stimulate them to gather rubber. As to the conditions in Africa, the world has heard of them for years, through religious missionaries and the British Aborigines Protection Society, for example, but nobody seems to have proposed any practical means of reform. Meanwhile, if Captain Burrows's book is to be believed, the situation is working out its own cure. That is, all the rubber is becoming exhausted, and many of the natives are being killed, so that, in a few years, the "Curse of Central Africa" will be only a memory.

### BUSY AND CHEERFUL AT EIGHTY YEARS.

IN a letter from Dresden to THE INDIA RUBBER WORLD, Mr. L. Otto P. Meyer, whose celebration of his eightieth birthday was noted recently in these pages, writes:

"Does it not make you feel good to be in correspondence with a man of eighty years, who does not think himself old? I have enjoyed good health all my life; have never been sick since my childhood, except that forty years ago I stayed eight days in bed. And now at eighty I feel strong and sprightly as a man of thirty, but my hair is pure white. I hope by the grace of our Lord to live a good while longer, and you may probably see me arriving some day in America. I am always busy with one thing or another, and disdain to effeminate myself; it seems I am well vulcanized."

Mr. Meyer was a younger brother of the head of the firm of Meyer & Poppenhusen, out of whose enterprise grew the India Rubber Comb Co., and first came to America in 1848 in their interest. Mr. Meyer mentions in his letter that fifty years ago, when Mr. Poppenhusen settled at College Point, New York, the present site of the largest hard rubber factory in existence, the place consisted of a single farm.

JOHN MUIR, head of John Muir & Son, Leith, Scotland, while lately at Colorado Springs, Colorado, made a statement which has found its way into the newspapers of the United States generally, to the effect that he had invented a process for tanning pigskins so as to make them suitable for tires, and he predicted that they would soon displace rubber for tire work. He stated that he had sold his patent rights for the United States, Germany, Austria-Hungary and Switzerland.



## LITERATURE OF INDIA-RUBBER.

LES PLANTES A CAOUTCHOUC ET A GUTTA. EXPLOITATION, CULTURE, COLLECTE, LES PLUS GRANDS PAYS CHAUDS. Par Henri Jumelle. Paris, Auguste Chénevier. [Paper. Pp. 311. Price 12.50 francs.]

THE author of this work, adjunct professor in the faculty of sciences at Marseilles, in charge of the study of colonial vegetable products in connection with the chamber of commerce in that city, has long since become recognized as an authority in his special field. The present is an outgrowth of a smaller work from the same pen, five years ago, on the Caoutchouc and Gutta-percha species of the French colonies. In his new work Professor Jumelle deals first with the nature of Caoutchouc and of latex and methods of its collection and coagulation, after 385 pages are devoted to an enumeration of Caoutchouc species, including a description of each, its geographical distribution, its yield, character of product, etc. The remainder of the volume is devoted to a similar treatment of Gutta-percha species. Fifty-seven illustrations and a good index add to the completeness of the work.

A TRAVERS L'AMERIQUE EQUATORIALE. L'AMAZONIE. PAR AUGUSTE PÉRON, Chargé de missions commerciales. Paris: Pion-Nourrit et Cie. [Paper. 1900. Pp. xiii + 274. 15 plates and map. Price, 1 francs.]

No other single work in our knowledge contains so much definite information regarding the principal rubber producing region of the world, with notes on the people, conditions of work and trade, river transportation systems, and, particularly, the location of the rubber forests and the details of collecting and marketing rubber, as the book above named. The book records the experiences and observations of a competent authority, who has spent several years in the Amazon valley, and the book is thoroughly up to date, recording events up to the end of the past year. One point to be noted is the inclusion in the book of the Brazilian laws relating to concessions of rubber lands. A number of half tone views relate to rubber working methods, and to life on the Amazon and its chief tributaries. This is a companion volume to "Le Perou," by the same author, noticed in THE INDIA RUBBER WORLD for April.

LE CAOUTCHOUC AU RIO-BENI. NOTES SUR LA VEGETATION ET L'EXPLOITATION DE L'HEVEA EN BOLIVIE. Par P. Cibot. Paris, 1900. [Reprinted from the *Journal d'Agriculture Tropicale*. Large 8vo. Pp. 12.]

THIS is a comprehensive summary of the observations of its author during six years spent in the rubber regions of Bolivia, giving many details as to the number of trees in a given area, rate of yield, methods of preparing the product, etc. It is interesting to note that though the author has been surrounded all these years with such immense natural supplies of rubber, including large areas not yet exploited, his work closes with the assertion that the future dependence of the world for rubber must be the cultivation of this product, on account of the decreasing yield of the *Hevea* trees under constant tapping.

NOTES ON BOLIVIA. COMPILED AND PREPARED FROM DIFFERENT SOURCES. By Pedro Suarez, Consul General for Bolivia in Great Britain. London: Unwin Brothers, Limited, 1902. [Paper. 8vo. Pp. 79. Price, 1 shilling 6 pence.]

A CONVENIENT handbook of information for intending investors, with maps and illustrations. The author says in his preface: "I have gone into the rubber industry in considerable detail, as I come from the districts where it is the chief occupation."

## IN CURRENT PERIODICALS.

MULTIPLICATION de la Liane à Caoutchouc *Lamellaria Oranienensis*. By Georges Le Testu. [By means of slips, or by "marcottage"; germination of the seeds is uncertain.]—*Journal d'Agriculture Tropicale*, Paris. III-22 (April 3, 1903.) Pp. 992-101.

L'*Hevea* sur le Rio Marcapata (Pérou). By P. Cibot. [Review of a recent work by Auguste Plane.]—*Journal d'Agriculture Tropicale*, Paris. III-22 (April 30, 1903.) Pp. 110-111.

## THE DATING AHEAD EVIL.

TO THE EDITOR OF THE INDIA RUBBER WORLD: While the writer does not want to be quoted by name, he cannot refrain from expressing his appreciation of an editorial article which appeared in the May 1 issue of your paper. We refer to that which passed upon the practice of many rubber concerns of dating ahead. The article was timely and necessary and we believe is calculated to do a lot of good. In our opinion oft times a concern is its own worst and perhaps almost sole competitor in such practices, inspired frequently by the misstatements of a salesman who must give some excuse for failing to secure business on regular lines. We are convinced that individual effort of the character recommended by you will accrue to the benefit of the individual and of the trade at large.

A MANUFACTURER.

May 11, 1903.

## NEW TRADE PUBLICATIONS.

THE MEIJI RUBBER MANUFACTURING CO. (Tokyo, Japan) send as a Price List (printed in Japanese and English) of a line of their products in mechanical rubber goods, with illustrations of delivery hose garden hose, steam hose, suction hose on spiral wire, air brake hose, armored hose, hydraulic hose, belting (round and square edge), packing, valves, buffers, body blocks, stoppers, truck tires, gage glass washers, rubber covered rollers, balls, mats, matting, and interlocking rubber tiling. H. Isono & Co., 12, Nichome, Ginzu, Japan, are sole agents. [8½" × 6". 24 pages.]

VOORHEES RUBBER MANUFACTURING CO. (Jersey City, New Jersey), makers of a full line of mechanical rubber goods, describe the same in a well got up catalogue that tells prospective buyers just what they need to know about the goods offered. Prices are given, and the illustrations are both numerous and notably good. [4½" × 6¾". 112 pages.]

THE BERLIN RUBBER MFG. CO., LIMITED (Berlin, Ontario) send us their fourth annual illustrated catalogue and price list of Rubber Boots and Shoes, for 1903-04, covering, besides their regular first quality and second quality brands, a special quality in lumbermen's goods, marked "Duck Neverbreak." The "Berlin" rubber heels are also listed in this book. [3¾" × 8¼". 56 pages.]

THE GOODYEAR TIRE AND RUBBER CO. (Akron, Ohio) issue a new edition of "How to Repair Tires," including incidental descriptions of all the types of tires manufactured by this firm, with illustrations. [3¾" × 5". 39 pages.]

JENKINS BROTHERS (No. 71 John street, New York) issue a copyrighted brochure, "Points on Packing," dealing with the unvulcanized India rubber packing which this firm originated more than 25 years ago. [3¾" × 6¼". 16 pages.]

MERCHANTS RUBBER CO. (No. 72 Reade street, New York), successors to William Morse & Co., with Mr. Morse as president, issue a neat illustrated catalogue of rubber clothing and mackintoshes, of which they handle a very full line, from a leading factory. [5¼" × 6¾". 46 pages.]

THE R. H. SMITH MANUFACTURING CO. (Springfield, Massachusetts) issue their Catalogue No. 29 of outfits for making Rubber Stamps, including their patented Vulcanizers, a new type of which is herein illustrated for the first time. [6" × 9". 12 pages.]

## ALSO RECEIVED.

MULCONROY CO., INC., Nos. 1213-1215 Market street, Philadelphia. = Piston Packings. 16 pp.

Jones Combination Rubber Heel Co., No. 39 Vesey street, New York. = Jones's Combination Heels. 8 pp.

## RUBBER PLANTING ON THE ISTHMUS OF TEHUANTEPEC.

*As Seen by the Editor of "The India Rubber World."*

## SECOND LETTER.

A Prosperous Private Plantation.—Hunting for Barren Rubber Trees.—Planting in Favorable and Unfavorable Locations.—Conditions for Successful Planting.—The Dry and Rainy Seasons.—Visits to Neighboring Plantations.—"Ixtal."—Snakes.—"La Junta"—The Agricultural "Mogo."—Negro Laborers.—A Midnight Ride.—Freedom from Plant Pests.

THE site of the plantation "La Ventura" five years ago was virgin forest. At that time Mr. James C. Harvey and his son Clarence purchased for themselves and their associates (a private corporation) 1000 acres of land and prepared to develop it along the most practical lines. When the senior of the two first came to Mexico it was with the idea of planting coffee, but after months of study and a personal inspection of most

of the Isthmus country he decided that India rubber offered the best opportunity for profit, and therefore has turned the larger part of his land into a plantation of *Castilloa elastica*. I am enlarging upon this a trifle because, to my certain knowledge, the gentleman under consideration is not only an expert horticulturist and botanist, but has studied tropical agriculture in Central and South America, and in the East Indies and West Indies, and beyond this he and his associates offered no stock for sale, but went into the business to make money out of their own investment of capital, energy, and knowledge. Such a plantation must, without fail, give the visitor the best possible view of the practical end of the business. There are, of course, many such private estates in the tropics, but it happened that this was the one that I knew most of and to visit which I had a most cordial invitation.

Here I was, therefore, installed in the palm thatched house, with its earthen floor and bamboo walls, that for five years had been the home of these hardy pioneers. The domicile was situated at one end of a long ridge, on each side of which, with a rare eye to effect, were planted gorgeous flowering and foliage plants, and trees valuable for fruit and for ornament. Very modestly the presiding genius showed me sixty-five different species of palms, probably the largest collection in the Americas. Not only were there palms native to the tropical parts of America but there were specimens from Java, Ceylon, New Guinea, Queensland, the Fiji islands, New South Wales, and a score of other remote places. These were gathered, not as part of the planting proposition, but from a plant lover's interest alone, which they seemed to appreciate by growing luxuriantly.

Then too, I must not forget the collection of orchids that hung from the bamboo lattice outside of the house, and clung to the trees on all sides; nor the orange, lemon, lime, grapefruit, banana, and plantain trees, a notable part of the garden equipment. I looked with interest also on the vanilla vines, the cacao plantation, and the twenty-five varieties of pineap-

ples, but my chief thought was rubber and so, I soon found, was his. I do not wish to make my planter friend blush, but when I found the work he was doing, how widely he was consulted by planters both in Mexico and in distant tropical lands, I was more than ever impressed with my wonderful luck in thus "striking oil" when first I began to bore. So I asked questions, and questions, and questions, and took notes most copiously all the time.

ONE of the first points that I wanted settled was, whether here or elsewhere, there were *Castilloa* trees either wild or cultivated, that did not yield latex. So we both started out to find one such tree, by cutting the outer bark—indeed during all of the trip I cut trees by the hundred just to prove this point—but found none except in one instance, which will be related later. I was much interested also to note the differences in the latex as it issued forth. In some instances the tree would send forth a perfect shower of milkwhite drops, which coagulated rather slowly, while

YIELD OF  
LATEX.

another near by would exude a thicker fluid that began to coagulate almost immediately. The natives claim that this latter tree is simply so rich in rubber that it retards the flow, and that, after a little tapping, it corrects itself and the latex becomes more fluid.

The younger trees all gave out abundant latex, but those that were less than four years old gave a milk that seemed immature; that is, it did not coagulate into dry hard rubber but remained quite sticky. I noted also a curious thing in connection with this, which was that in the younger trees the latex began to mature first near the base of the tree, while up toward the branches it still remained of the sticky sort. But we found no trees in this district that did not yield latex abundantly.

At "La Ventura" I was able to institute some exceedingly interesting comparisons between the growth of the rubber tree under favorable and unfavorable conditions.

In both cases the trees were *Castilloas* planted from selected seed. In the first instance they were planted in the open, about 9 feet apart, on rolling land which had good drainage. Measuring the circumference of the trunks a foot above the ground, I got a fair average of 23.3 inches, and an estimated average height of 22 feet. The banner *Castilloa* was a seedling planted in the open that measured 32 inches in circumference and 25 feet high. All of these trees had every appearance of health and vigor and gave forth milk abundantly. From the records shown me, they were a trifle over four years old. In the second instance, grown in partial shade, such as produced fine cacao, with the land more level and not well drained, the trees being planted at exactly the same time, and from the same lot of seed, I got an average of 4.6 inches for circumference a foot above the ground, and an average height of 6 feet. Anyone would not seem to need a



"LA JUNTA" RUBBER TREE 27 MONTHS OLD FROM SEED.





"LA VENTURA" HEADQUARTERS OF THE PLANTATION COMPANY.

more graphic illustration than this of the necessity for observing proper conditions in planting, and further, as a warning against planting in badly drained land or in the shade.

It is well to note that where these failures appeared there were several wild rubber trees that we estimated to be 25 or 30 years old. They seemed to be perfectly healthy and bled freely. The only reasonable explanation of this is that they were seedlings that grew up slowly in the densest sort of forest when the tremendous surface growth was so luxuriant as to be able to partially drain the ground through its great leaf areas and also lift and make it porous by the leverage of myriads of thrusting roots. The partial clearing of the land later stopped most of this aerial drainage and the subsequent rotting of the roots allowed the ground to sink into a solid, water-sodden mass.

THE land at "La Ventura" seemed to be first leaf mold, then a rich yellow loam three or more feet deep, and under that a

blue clayey ooze, as if from the bottom of a tropical ocean bed. It was rolling land as a rule, very well

drained, and capable of growing almost any tropical product. The *Castilloa* orchard, through which I tramped many times, had in it about 240,000 trees, from one to four years of age. All of them were planted from the seed, except a small percentage taken from nursery stock to make up for the occasional failure of a seedling.

One result of my early observation, and one that grew with each day's experience, was the conviction that a knowledge of climate, rainfall, soils, drainage, etc., is an absolute necessity from the beginning in the selection of suitable sites for rubber plantations. In other words, the expert tropical agriculturist, well equipped with common sense, is most likely to be the one who starts right. For example, one plans to plant the *Castilloa*. It is a soft wood tree, a tree that from its physical formation is

not built to stand high winds, that with its long taproot must have a deep, rich soil and well drained withal. It is a deciduous tree, which means that at a certain time each year it encourages the presence of the sun's rays on its trunk and limbs. The prospective planter should, therefore, pick out land that is covered with a growth of soft rather than hard wood trees, as the latter points to gravelly soil instead of clayey loam. It should be rolling land, or at least land that is naturally well drained. It should be soil that will give the tree plenty of moisture during the dry season and yet that will not be soggy during the wet. For a running rule there should be at least four feet of drainage soil. In the clearing of the land, if there are not natural windbreaks, a certain amount of forest should be left standing to act as such. Referring again to the long taproot of the *Castilloa*, it is said that as the tree grows older it often disappears, its place being taken by large laterals.

ISTRUCK the *Tierra Caliente* just at the beginning of the dry season, and therefore was curious to know exactly what the rainy and dry seasons consist of in the tropics. Of course, no general answer could be given, as in different tropical regions these seasons have their own idiosyncracies. I believe I had but little idea of what the weather really was in the rainy season, whether it rained all the time or was partly rainy and partly clear, and this is what I learned. In the state of Vera Cruz the dry season runs roughly from February to June. During the latter part of May there are about three weeks of genuine hot, dry weather. Prior to this, what is really the dry season is often broken by rainfall; in fact it rains a little about half the time. Beginning with the first of June, however, and lasting until the first of September, come the torrential rains, except that there is in August a week or ten days of dry weather. Nine days out of ten during the tor-

RAINY  
SEASON.



"LA VENTURA." RUBBER PLANTATION SEEN FROM MAIN TRAIL.



"LA FLORENCIA" PEAK THROUGH FOREST GROWTH

rential rains the morning breaks bright, clear, and sunshiny. Then in the early afternoon heavy thunder is heard, followed by the roar of the rain through the forest, the water falling in sheets from one-half to one and one-half hours. It also rains regularly during the night.

When night fell at "La Ventura" we all went indoors, for beautiful though the tropical moonlight is, fevers are most easily caught after sundown and particularly if one sleeps out in the open. In fact, native or planter will do almost anything rather than thus expose himself. We did sit in the doorway for awhile and drink in the glorious view of tropical luxuriance, made almost as light as day by the full moon, yet softened to a weird rich beauty that the northern climes cannot equal.

FOR the first time in my life I slept under a gracefully draped series of muslin curtains. As there were no mosquitos I thought it rather unnecessary until my host said that although the country was a paradise, centipedes, small snakes, and tarantulas sometimes dropped from the inside of the thatched roof, and while they were not as poisonous as many thought I might not care to share my couch with them. I slept under a blanket, it was so cool, and awoke to find awaiting me, at the end of a palm thatched corridor, a fine shower bath. Few planters have them, but Mr. Harvey's English blood, so it is said, impelled him to build this before he had a roof on his house. It was certainly a great luxury, and one to which my thought often turned when later I awoke from a night's alleged sleep in a passenger coach or native hut.

The day was Sunday and we had coffee and rolls soon after rising, and breakfast about 12, as is the custom of the country. In the afternoon many neighboring planters rode over, on horses or mules, and discussed crops, asked the news from the outer world, and were most cordial in their invitations to me to visit their places, and it was with the greatest regret that I was able to avail myself of only a few of these privileges.

It was during this social Sabbath that I renewed a pleasant

acquaintance with the two Fish brothers, Wisconsin Yankees who were looking at land in that region and who, I believe, finally purchased the "La Florencia" estate, said to have the oldest cultivated rubber in that district. They were hustling about, seeing things in a jolly breezy fashion that made them most welcome, and they helped me exceedingly by giving me excellent photographs of nearby estates that I did not have an opportunity to visit.

When first I struck "La Ventura" I must confess that the languor of the climate, or else my own innate laziness, led me to take things very easy. The hammock in the family room was most inviting, and in spite of the fact that "Loro," the green parrot, watched until I napped and then climbed down from the rafters and gave me a friendly bite, I luxuriated—but only for a couple of days, and they were far from wasted, as I drank in lots of information from my host.

The second day we started out to visit the neighbors. I wanted to walk, but that was out of the question so I had my second experience as a horseman. I was devoutly thankful that my little mare was lazy—nor did I mind it that she always managed to step on my toes just as I prepared to mount. But she did take advantage of me when she chose to stop on a log bridge not more than two feet wide and standing on three legs try to bite a fly that she pretended was on the fourth. We did not fall off but had I started her with voice or whip I think we should have. She had a habit too of imagining she saw a snake ahead in the trail and suddenly

leaping to one side. I staid with her every time and am still just as much surprised at it as she was.

OUR first visit was to "Ixtal," where I had a chance to again thank Mr. Adams for his earlier helpfulness, and also to meet his right hand man, Mr. Stewart. It was to my mind, the hottest day we had experienced when we finally reached the ridge upon which the plantation buildings were located. By that time I was getting to be somewhat of a *connoisseur* in rubber trees, and so, after the noon breakfast, was



"LA VENTURA" CORNER OF RUBBER FIELD ONE YEAR OLD.





"LA FLORENCIA" CATTLE AMONG RUBBER TREES THREE TO FIVE YEARS OLD.

glad to accompany Mr. Adams on a tour of inspection. Here were some 250 acres planted to rubber, the oldest being four years, the total number of trees being about 150,000.

The land was very similar to that at "La Ventura" and the growth about the same, although in a part of the plantation the trees seemed to be a little taller. *Latex* flowed from them all abundantly and my guide said that he had never found one that did not show plenty of milk. In discussing this question Mr. Adams told of an Austrian scientist who had been in that region and who claimed that there were three native *Castilloa* species, only one of which was a rubber producer. They all looked alike, so he said, and the difference in them could only be detected by a careful examination of the cellular structure of the leaf. He said further that he uprooted 80 per cent. of his own first year's planting because he did not know this. When he finally did get the right tree big enough to tap it bled so freely that he was obliged to stop the cuts with clay else it would have bled to death. We were able to assure Mr. Adams that this was not credible, to which he agreed.

One of the officials of "Ixtal," Dr. Butcher, has a very pretty home not far from the plantation headquarters, at which we called on our way back. The Doctor and his wife received us hospitably, and while the others chatted on neighborhood topics the head of the house took me out and showed me the skin of a big snake that he had just killed. Now one of the common dreads that the tenderfoot carries with him into the tropics is that of snakes. It would be folly to believe that there is no danger from them, when one considers the impenetrable jungles and the conditions that nature has prepared for an ideal reptilian existence. As a matter of fact, however, during the whole of my trip I did not see a single live snake, big or little. I did see the skins of some very sizeable snakes nailed to walls of the planters' houses, such as that which Dr. Butcher showed me, but even they are rare. The planters say that this lack of snakes is due to the fact that the woods are full of wild hogs who consider any kind, poisonous or otherwise, a great delicacy, and that those that escape the hogs are very likely to be caught by the hawks, which are very abundant and always on the watch. There are only two really poisonous snakes there, as far as known; one is the *vabude heuso*, which is small, quick and very deadly, and seems to have a special antipathy to mules. The second is called by the natives the "sorda," and is something like the diamond rattlesnake but has no rattles. It has poison fangs an inch and a half long, is very slow to move, and quite poisonous. There are also small pythons and some big black racers, both harmless.

We returned to "La Ventura" late in the afternoon, and after a good night's sleep, were fully prepared for further visit-

ing. Our next journey was to "La Junta," the largest plantation in that district. Like all the others, the approach was through the forest, by the usual trail that meant considerable rough riding, the fording of streams, plodding through mud, and climbing over fallen tree trunks. By this time I was fairly used to it however, and was enjoying it as I never would have believed possible. It was early in the afternoon when we emerged from the forest, and struck the broad fine road that runs through the plantation. We were now on a ridge that gave a fine view, not only of the rolling land covered with young rubber trees, but some two miles off we also saw the Administration building and workmen's homes that mark the center of the planting operations. The estate contains some 5000 acres, of which one half is already cleared, most of it planted to rubber. The trees are from 7 to 9 feet apart, and looked as if they were in prime condition. The orchard numbers about 750,000 rubber trees. The oldest of these will be two years old next July, and average 2.5 inches in diameter, a foot from the ground, and about 7 feet in height. For help there are from 200 to 400 men, one half of whom are natives. Perhaps here more than anywhere else has been tried the experiment of importing labor, and not depending entirely upon the native, who is not at all times entirely reliable.

THE average *mozo*, or agricultural laborer, is however a most interesting study. If treated well he is a good workman, and that too without any particular reason why he should be. In the community in which he lives he has allotted to him a certain amount of land, which if tilled three months in the year very moderately will produce enough to keep its owner in what is to him comfort, the year round. As a rule, the *mozo* is of medium height, strong and

THE  
"MOZO."



"LA FLORENCIA." PLANTATION HOUSE.



"LA FLORENCIA." FINE STAND OF RUBBER TWO TO FOUR YEARS OLD

skilful within certain narrow limits, but ignorant, superstitious, and childlike. For instance, he can carry on his back almost as much as an able bodied burro, but if he were to reach with both hands up the branch of a tree over his head, he would find it almost impossible to pull his chin up even with it. On the other hand, he can use his *machete*, his constant companion, in the most skilful manner, and tirelessly. For example, he knows so thoroughly the texture and density of all tropical vegetation, that he can cut his way through the forest with scarcely a sound, grading each blow so as to exactly sever vine, stalk, or limb, without waste of strength; or if given a stint of work in clearing weeds, or undergrowth with the *machete*, can do more in half a day than any other laborer can in a day. The axe men among them are not as common as the *machete* men, but they too are exceeding skilful, wielding the straight handled, broad bladed axe with marvelous ease, and felling a tree, no matter how large it is, exactly where they wish.

As a rule the natives are not well nourished, and seem to have more sickness than do the foreign residents. Indeed, the stories of yellow fever that come to us relate more to the native workman than to any other people. Strange as it may seem also, the workmen from the hill country when they get down in the hot countries are very apt to die of pneumonia. The *mozo* withal is an unpractical sort of a chap, and while he knows it, he doesn't seem to care to change. I heard a planter point out to one of them that if he stayed on his own allotment, and worked, he would in three months raise \$15 worth of corn; on the other hand if he worked that three months for the planter, he would get \$60 and all the corn he wanted. The native acknowledged the force of the argument, but didn't see his way clear to change his habits. They are a very serious people, as a rule, except when full of *aguardiente*; then they become rather boastful, and are sometimes quarrelsome.

A pretty custom of the country is the greeting that they always give the traveler, and usually each other when they meet. In the morning it is "*buenos dias*," and in the afternoon "*buenos tarde*," and in the evening, "*buenos noches*."

The *mozo* is essentially a religious being, and his impulses find ample scope in the thirty-five *fiestas*, or feast days, that have been provided for him. He usually patronizes at least two of these, and oftentimes many more, and spends every cent he has on *aguardiente* and *mescal*. The result is he gets conspicuously drunk and stays so as long as he can. Such a thing as a *mozo* having money ahead is unknown. On the contrary he is usually in debt. The planters therefore, when they hire them, purchase this debt, which sometimes runs as high as \$200, and also promise the man a certain advance to be spent at the next *fiesta*. The average wage is from 62½ cents a day up to about

75 cents a day, and found. This as a rule includes three drinks of *aguardiente* a day. Some of the planters have secured negroes direct from the United States and from Jamaica. These get about 75 cents a day, and found, except when railroad contractors tempt them off by offering them from \$2 to \$5 a day. But to return to "La Junta."

WE rode for a long distance through the rubber, and finally, ascending a steep hill, found ourselves in the main street of the plantation village. Here was concentrated the life of the place, and the scene certainly was a busy one. Of the thirty or more native houses

#### A PLANTATION VILLAGE

of bamboo and palm thatched, several were rapidly being turned into frame dwellings with tiled roofs, and built to stay. Beyond these was the long one story dwelling house of the general manager and his baker's dozen of active young American assistants. Then came the store, stocked with as large a variety of goods as any village emporium could boast, and then a two story building, the lower part of which was the general dining hall, and the upper the office of general manager and field superintendent. On the opposite side of the street was the carpenter's and blacksmith's shop, the stables, etc.

The active head of affairs, Mr. George Mann, caught sight of us almost as soon as we arrived, and not only bade us to supper, but insisted that we stay over night. This we decided to do, rather than to ride the trail after nightfall. He then introduced us to his staff, or such of them as were not absent, and Messrs. Kramer, Hill, Zimmerman, Shufeldt, Sleister, and Dr. Erwin, all young, active, and friendly, who, together with their capable chief, will long linger in my memory as types of Americans that are so effectually conquering the tropical wilderness. Dr. Erwin, by the way, is physician and surgeon for the plantation, and Mr. Shufeldt is the son of Commodore Shufeldt of the United States navy, who surveyed the route for the Tehuantepec ship canal for the United States government some years ago. Mr. Sleister I had already met, as he was on the train that bore me to Achotal. I did not see much of him, however, as he had a carload of Tennessee negroes in charge to deliver to "La Junta;" and as one or two of them were "bad coons," and as liquor was abundant at every stopping place, his hands were full most of the time. By the exercise of much patience and tact, and by wearing a huge Mauser revolver while in their company, he finally got them all safely there.

There was still enough of daylight to have a look around, so we visited the various shops, together with the sawmill, brickyard, and waterworks, inspected the native quarters, and got back just as supper was announced. We spent the evening in the assembly room of the officers, smoking big black Mexican cigars that have no harmful effect in that climate, but would be





"LA FLORENCIA." LARGE CULTIVATED RUBBER.

deadly in the north, and listening to home music from a well equipped phonograph.

WE retired about 11, and had hardly got a good grip on our beauty sleep when a stir outside showed that something was doing. Not to miss anything, I went out upon the broad veranda, and found the young men saddling their horses, and equipping themselves for a moonlight ride. Seeing me expectant, they informed me that nine of the Tennessee negroes had skipped, doubtless to join some railroad gang, and for a short time get higher wages. As the company had paid their fare from the States to the plantation, and as the moral effect on the others would be bad if they were not brought back, it behooved those in charge to stop them before they reached the railroad. And they certainly went about the matter as if they meant business. It was a thrilling sight to see them assembling, and I forgot that I was pajama clad and barefooted, and stood in the moonlight watching, until they finally cantered off down through the valley and over the hills, and were lost to sight in the black wall of forest, into which the road ran. To finish this incident I may add that they overtook all of the runaways, and brought them back, and they went to work again just as if nothing had happened.

The next morning after inspecting the rubber, and getting samples of earth for analysis, we took the road home, where we arrived safe, sound and happy, except for the *rodadores* and *pinoleos*. Of these I shall have more to say at another time.

PLANT life in Mexico seems to be exceptionally free from pests of all sorts. I did, in the course of my trip, see three caterpillar nests, but not in the *Tierra Caliente*. I looked and inquired particularly for any enemy of the *Castilloa*, but found trace of none, and heard only of an ant that attacks the tree where it has been wounded at times, but that only rarely. Of the few trees thus attacked, nearly all had thrown out woody excrescences that were not only protecting the inner tissues, but seemed actually to be crowding the devourers out. So rare is it that a tree is thus attacked that the planters take no precaution against it.

Speaking of ants, these busy workers are in evidence nearly everywhere, and when the "marching ants" come in force, everything that can, gets out of the way. The householders welcome these visits, as the ant army goes through every crack and cranny in the house, killing mice, spiders, and insects of all sorts; in fact, making a clean sweep. When they call in the middle of the night, and announce their arrival by mounting one's bed, and by the most vicious of bites, it is a bit sudden, but all one has to do is to get out of the way until their work is done, when they depart with the curious rustling noise with which they came. Some of these armies march great distances, and have huge nests as much as 50 feet in diameter.

The rubber tree is not singular in being free from pests—nearly all others seem to be equally so. It was a rare thing to see a leaf or a petal that had been blighted or eaten by any sort of insect. The reasons for this remarkable immunity from the usual pests are not far to seek. They will, I think, be found in the great abundance of birds, and no doubt in the wonderful equilibrium that nature has there established between the insects that are destructive to plant life, and the other insects that prey upon them. It is to be hoped that this balance may long be preserved. As a matter of caution, it might be well to state that the hunter who slaughters birds for their plumes will not find a cordial welcome among the Mexican planters.

In the dry season, which of course was when my visit was made, there are but few butterflies and moths, but in the rainy season they are most abundant. Of these my host had a collection which gave one a wonderful insight into the winged beauties of that section.

NOTE.—The illustrations accompanying these letters do not always relate to the plantations described, because photographs were not obtainable from all the places visited. In such cases views are shown of neighboring and more or less similar plantations.



"LA FLORENCIA." TAPPING LARGE WILD RUBBER TREE.

## THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

*By Our Regular Correspondent.*

THIS headline may seem somewhat incongruous under the general title of this correspondence, but all the same I imagine that my readers will not press for an apology on the few occasions when I draw their attention to rubber works situated outside the confines of Great

NOTES  
FROM  
FRANCE.

Britain. Probably, though I speak with some reserve, Clermont-Ferrand is the most important center, Paris excluded, of the rubber trade in France. It is here that the well known Michelin tires are made, the firm of Michelin et Cie. having from small beginnings evolved in a few years to a concern of great size and importance, mainly through the expansion of their motor tire business. The important general rubber manufacturing firm of Torrillon et Cie. is also situated in the town, or, more accurately speaking, in the adjoining township of Royat, still, as in Roman times, much frequented as a watering place. A third firm making general rubber goods and employing a large number of hands is Bergougnan et Cie., makers of the "Gaulois" tire. Clermont-Ferrand, I may say for the benefit of those who are not deeply learned in the geography of France, is a struggling town of somewhat uninviting aspect, but beautifully situated at the base of the Puy de Dôme in the mountainous region of the Auvergne, eight hours distant from Paris and twelve from Marseilles. Coming to it, as I did, from the sunshine of the Riviera, I found the winds from the snow-capped Puy de Dôme rather trying, the region being one subject to extremes of temperature. Probably what would most forcibly impress those who are familiar with the usual environment of rubber works in London, Glasgow, or Manchester, is the fact that at Clermont-Ferrand art has not been altogether trampled under foot by the imperious demands of trade. The works of Messrs. Torrillon, with gardens, fountains, and flowering trees, would form an agreeable picture postcard, and one which would go a long way to remove the prejudices of the most ardent Ruskinite against the spread of manufactures into erstwhile country districts. The reason why Clermont-Ferrand is such an important rubber manufacturing center appears to depend upon the ample supply of cheap labor. The town has few industries of any importance, and the inhabitants of the Auvergne have long had the reputation of being industrious, steady folk. The chief drawback of the place, I was told, is the limited water supply, this sometimes proving a serious handicap. All the works mentioned report themselves as being very busy, and as having extensions of their premises in view so that whatever may be the case in Great Britain it does not seem that the rubber trade in France has any cause for grumbling. As far as I could make out the decline in favor of the rubber proofed coat in England has not been reflected in France, one manufacturer affecting considerable surprise when being shown a rainproof coat made by a British rubber manufacturer, and which contained no rubber. In another column of this Journal mention was recently made of the Swinehart tire, of American origin. This tire, which is of the solid type for carriages, is now the sole property [in France] of Messrs. Torrillon, and arrangements are approaching completion for making it on the large scale. The name of Torrillon has come somewhat prominently before English readers of late in connection with the translation of the French book on the India-rubber manufacture written by Messrs. Seeligman, Lamy-Torrillon, and Fal-

connet. Mr. Lamy-Torrillon, however, I may mention, is not engaged at the Royat works, but manages the large warehouse of the firm in the Rue Faubourg des Poissoniere in Paris. Another of his literary efforts has been the translation into French of Mr. Pearson's well known book, "Crude Rubber and Compounding Ingredients." Under the able management of Mr. Murphy, an Irishman, who has gained experience in several British and Continental factories, Messrs. Torrillon seem destined to become in the future an even greater factor in the rubber trade of France than they have been in the past. A feature of these works, by the way, is that one of the two mills owned by the firm is situated on the river, and the rubber washing machinery is driven by a water wheel. In summer time the washed rubber is to a great extent dried by exposure to the sun's rays, a procedure which is followed at some other Continental works.

THIS branch still remains in a very moribund condition as far as the home trade is concerned, though shippers report improved business during the last few weeks to South America, Java, etc. The hoped for revival of the macintosh trade in Great Britain seems as far off as ever, the predicted popular disgust with the rainproof being anything but in evidence so far. The references made by Dr. Weber in a contemporary with respect to the smell of macintosh garments, and as to the means of obviating this defect, have been read with mixed feelings by those interested in one way or another. The substitute manufacturers express themselves forcibly, as is only natural, against the following paragraph: "It is important to reduce to a minimum the odoriferous ingredients, each of which naturally contributes its quota to the final effect. For this reason I consider it absolutely essential to exclude absolutely from mixings intended to yield odorless proofings either the white or the brown description of substitutes." Into the merits of the case as argued on both sides I am not disposed to enter on this occasion. Trade interests may of course easily prove a stumbling block to those who at heart have no wish to prevaricate; all the same it may turn out that the defenders of the maligned substitute have a stronger case than readers of the article in question would imagine.

THIS article may now be considered fairly on its trial. The reports on it made to me by purchasers are not by any means unanimous in its favor, but naturally the erstwhile supremacy of the product of the sponge fisheries—to use a singularly inappropriate expression—will not be overturned in a moment. With regard to the manufacture, I am not aware that the struggles of certain British firms in this direction have yet been crowned with success. A foreign firm to whom I mentioned the matter did not appear to be familiar with the article but had no doubt they could manufacture it if they wanted to do so.

EDITORIAL reference was made in the April issue of this Journal to the position taken up by the Dunlop Pneumatic Tyre Co. with regard to other motor tire manufacturers. The circular issued by the Dunlop company to explain their position requires no comment from me, but I may say that something of the sort was wanted, as undoubtedly the company have been maligned by

THE PROOFING  
TRADE

THE  
RUBBER SPONGE  
UP-TO-DATE.

DUNLOP  
AMENITIES.



those whose knowledge of the circumstances is very superficial. Quite recently a buyer of motor tires told me that he would purchase anywhere rather than from the Dunlop they acted so unfairly to their competitors. Efforts, therefore, to counteract such opinions cannot be considered superfluous.

THIS motor tire, with which Sir William Tomlinson, Bart., of Preston, is prominently connected, is now being manufactured for the company by The Dermatine Co., Limited, of London, certain points on which some little friction occurred with regard to the earlier manufacture having now been amicably adjusted.

JUST before the date of posting comes the announcement in the form of a circular from the India-Rubber Manufacturers' Association that a 10 per cent. rise has been agreed upon in the case of packing, belting, and hose, owing to the increase in the price of raw rubber. With regard to the reception of this notice by buyers I may have something to say next month, but I cannot think that when they consider the situation they will feel that they have legitimate cause for grumbling. The feature of the announcement is the fact that such prominent firms as Warne's, the Silvertown, and the North British, who have hitherto remained outside the Association, and are not yet enrolled among its members, have yet signified their intention to follow the initiative of the Association and to abide by the decision for a 10 per cent. advance.

I HAVE recently seen a sample of a carnation colored substitute to all appearances the ordinary flocculent white substitute dyed with some coal-tar color. The coloring matter is fast to water but bleeds freely in naphtha. The makers are Messrs G. W. Laughton & Co., of Bradford, Manchester, and the idea is to enable a manufacturer to produce a red rubber of a superior color and at a cheaper rate than by the old fashioned use of mineral coloring matters.

QUITE recently this important Italian firm, referred to in my last notes, has opened a branch establishment in Villanueva y Geltru, 25 miles from Barcelona, Spain. The works are for the manufacture of electric cables only, and the general rubber manufacturing business is not to be taken up for the present at all events. The site of the works covers  $3\frac{1}{2}$  acres, employment being given at the present time to 200 men. The 300 HP. utilized is generated by two condensing steam engines, transformed into three-phase current by alternators and thus distributed to the motors driving the machinery in the different points of the works. So far Spain has not possessed any electric cable factory and the rubber manufacture proper is represented only by a small concern in Barcelona. It may be mentioned, by way of reference to what is now ancient history, that the cables from Spain to the Balearic isles, as well as many of those from Spain to Morocco, were laid by Messrs. Pirelli, the contracts being obtained in competition with the old established English firms. Members of the Institution of Electrical Engineers who joined the recent trip to north Italy express themselves as highly gratified with the hospitality extended to them by the firm, though those with whom I have conversed are somewhat in error in imagining that Italian merchants generally possess that knowledge of the English tongue which enables the Messrs. Pirelli to put the untutored Englishman at his ease. One hears so much about the progress which Italy has made of late in electric traction and lighting that it will not be without interest to say a word as to cost. Milan is splendidly lighted by electricity, but not at a particularly cheap rate; I have not got the actual figures by me, but the cost of the light per unit is much

more than is the general case in our large towns. The high cost of coal for gas making has of course been a great stimulus to the electric lighting of Italy, and I suppose that as long as the electric light is cheaper than gas there is no great disposition to supply it at cut prices. In England the competition between the two sources of light must continue to exist to the advantage of the consumer.

CONSIDERING the very limited area of the tropics from which supplies of Gutta-percha can be drawn, I anticipate a successful future for the chartered company recently formed in America to work certain lands in British North Borneo for Gutta-percha and rubber. It is to be hoped that now in this area at least a stop will be put to the wasteful methods which have hitherto been practised by the natives in obtaining the Gutta-percha milk for sale to the Chinese merchants. And not only is there wanton waste by the collector, but there is also a good deal of fraudulent blending done during the coagulation of the "su-su," as the milk is called. It has long been recognized both by government officials and by those engaged in the exploitation of gutta that strong remedial measures were necessitated in the interests of the trade, but as a prominent official told me a year or two ago, the difficulties in the way of reform have proved too difficult to surmount. They had, he said, posted up stringent notices as to what was and what was not permissible, but it was not possible to engage a sufficient number of police to follow the collectors into the recesses of the jungle in order to see that the edicts were obeyed. In spite of the undoubted developments and possibilities of the Marconi system of telegraphy, there does not as yet seem any decline in the demand for Gutta-percha for this purpose, and anything which tends to the conservation of its sources of supply is matter therefore for congratulation.

FROM what I hear from a merchant doing business at Khar-toum, the export of rubber via Egypt is likely to show a considerable augmentation in the near future. The quality of the rubber is very good, a recent lot having made 3 shillings 6 pence per pound. At first loss was occasioned by inexperience, the merchants not being able to distinguish between sound rubber and a more or less worthless resinous product offered them under the name of rubber. "Now we understand the business," said a merchant recently; it is to be hoped that he is not over confident for the raw rubber business contains many pitfalls even for those who have had a long and varied experience in this branch.

#### SOME WANTS OF THE RUBBER TRADE.

[286] FROM England: "Some friends of ours, to whom we supply a very large quantity of solid cab tire, desire us to put them in communication with American makers of electric wire welding machines. Can you give us some help?"

[287] From a rubber jobbing house: "We should like a list of the different parties in the United States who manufacture solid and inflated rubber balls, of every description."

[288] "Can you give us any information as to whether there is a rubber hose made which would not be affected by gasoline? Many automobilists desire to use a rubber hose attached to the nozzle of air pump for filling their automobile reservoirs, but we learn that gasoline passing through the hose will in time decompose the material."

[289] From a New York house: "We should like the names of buyers of second hand tires to sell again, not reclaimers."

[290] A hard rubber factory desires to know who has battery jar scrap for sale, and at what price.

## INDIA-RUBBER INTERESTS IN EUROPE.

## THE FIRST BELGIAN RUBBER MANUFACTURER.

THE honor of creating the rubber industry in Belgium is due, without question, to Mr. J. Coenen, Sr., of Brussels, who in 1848 established in Louvain the Siegeriest factory, and, in 1850, in Brussels, that of Gustave Luyck, managed later by Mr. Eugène Pavoux. In 1873 Mr. Coenen founded in Cureghem a plant for the manufacturing of hose made of rubber treated hemp for fire engines, and in 1882 added a department for the manufacture of waterproof garments. It was in 1892 when the firm of Coenen invented a pneumatic tire for bicycles, which by a special process was made unpuncturable. This pneumatic tire, in the manufacturing of which entered pure Pará rubber and a linen-cloth called "Calixor," with diagonally woven threads, soon acquired a justified fame. We may state also that towards 1848 Mr. Coenen discovered, simultaneously with Goodyear in America, the process of vulcanizing of India-rubber by means of steam. Mr. Coenen bears his seventy-one years lightly, and is still very actively engaged in the management of his factory—J. Coenen père et Cie.—*Le Moniteur du Caoutchouc*.

## THE RUBBER INDUSTRY IN ITALY.

A HANDSOMELY got up pamphlet entitled "Notes on the Industry and Works of Pirelli & Co., Limited (Milan, Italy)," containing illustrations of the company's factories, was issued in honor of the visit to Milan of the Institute of Electrical Engineers of Great Britain, in April last. In addition to the Milan works, founded in 1872 and now giving employment to an average of 2700 workmen, in the manufacture of every article that can be made in India-rubber, Gutta-percha, and asbestos, the company have also cable works at Spezia, Italy, at which have been filled a number of important orders for submarine telegraph cables for the governments of Italy and Spain, in addition to much private work. For instance, mention is made of a cable to be laid in the Nile for the tramway company at Cairo, Egypt. Rubber insulated cables for torpedo work were supplied lately to the royal navy of Greece. In 1901 was founded the Spanish company, Pirelli y Cia., for the establishment of an insulated wire plant near the city of Barcelona, where already 200 workmen are employed, in buildings covering  $3\frac{1}{2}$  acres. The total capital employed by Pirelli & Co. amounts to 5,500,000 *lire* in shares and 3,000,000 in debentures, or a total of \$1,640,500, and the company now ranks as one of the four or five largest rubber concerns in the world.

## A PATENT SUIT WON BY THE DUNLOP COMPANY.

THE New Lamb Tyre Co. (Glasgow) were sued November 4, 1901, in the court of session of Scotland, by the Dunlop Pneumatic Tyre Co., Limited, who alleged infringement of the patent on tires issued to C. K. Welch (No. 14,563 of 1890) and owned by the plaintiff. The defense was that the tires complained of were made under a patent (No. 23,852 of 1897) granted to George Lamb, and that there had been no infringement of the Welch patent. In April, 1902, a decision was rendered in favor of the Dunlop company, from which there was an appeal, with the result that the decision has been affirmed. The court said that the validity of the Welch patent had been sufficiently upheld by the courts; the court would not consider the question of the later patent granted to Lamb, as the cycle tires or covers complained of had not been made in accordance with that patent. The edges of the Lamb tire covers were made with a number of loose strands of yarn solutioned so as to

form part of the cover itself, which strands formed a taping to strengthen the edge of the canvas. The defense denied that the effect of such strands was to hold the tire cover in position, but that the cover was held by frictional or other forces. The court, however, decided that the efficient cause of the tire being kept in place was the inextensibility of the edges produced by the hempen strands, which constituted an infringement of the principle of the Welch patent, under which this service is performed by the inextensibility of the wires in the edge of the tire covers. The Welch patent, by the way, expires on September 16, 1904.

## COMPANY CHANGE AT GLASGOW, SCOTLAND.

THE Craigpark Electric Cable Co., Limited (Glasgow), has been formed, with £150,000 capital, authorized, to take over the business of the The Craigpark Co., Limited, manufacturers since 1897 of electric and telegraph wires and cables and India-rubber and Gutta-percha goods. The Craigpark Co. have done a profitable business from the beginning, the dividends on the ordinary shares for five years having been 4 per cent., 8 per cent., 10 per cent.,  $12\frac{1}{2}$  per cent.,  $12\frac{1}{2}$  per cent. The business is transferred to the new company for £37,500, cash, including £4239 for good will. Directors: J. T. Tullis (chairman), W. S. Brown, W. R. Dick, Claud Hamilton, Andrew B. Maclean (managing director). John Deas is secretary. Lord Kelvin is consulting engineer. Offices: Flemington street, Springburn, Glasgow.

## A GERMAN RUBBER SPONGE.

THE specification of a British patent granted to the Vereinigte Gummiwaaren-Fabriken, Harburg-Wien, for the manufacture of a rubber sponge, states: "Unvulcanized India-rubber is mixed with natural seeds, or with molded bodies of flour, clay, gelatine, sugar compositions, or other substances, or with non volatile soluble metallic salts, either by rolling, or by first dissolving the India-rubber in a hydrocarbon. The mixture is vulcanized, and the added bodies are subsequently washed out with water, acids, or alkalies."

## THE RUBBER FACTORIES AT HARBURG.

THE explanation of the existence of the large rubber factories at Harburg a/d Elbe, in Prussia, instead of their being in Hamburg, the great commercial metropolis, is to be found in the fact that until 1888 the latter city remained outside of the German *Zollverein* (customs union). Under the old régime, articles manufactured in the free town of Hamburg would have been subject to an import duty on entering any other part of Germany, and hence the rubber industries owned in Hamburg became chiefly located within the limits of the customs union, including Harburg, across the river from Hamburg.

## WHERE BRITISH RUBBER MACHINERY IS MADE.

A VERY full account appears, in a recent issue of the Edinburgh *Evening Dispatch*, of the extensive establishment of Messrs. Bertrams, Limited, owners of St. Katherine Works, Sciennes, Edinburgh, manufacturers of machinery. The present business was established in 1821 by William and George Bertram, respectively uncle and father of the present acting director, David Bertram. This firm were the pioneer builders of machines for the production of paper on the "Fourdriner" system, and have equipped machines for paper mills in Great Britain, continental Europe, India, China, Japan, and Australia, including some of the largest installations in existence



Their production has not been confined to paper making machinery, by any means. They have lately designed the whole of a large new linoleum establishment at Liff, near Dundee, Scotland, and a floorcloth factory at Fife, and they are doing an important business in supplying plant for India-rubber and Gutta-percha works. The Edinburgh newspaper mentions that "a very interesting order was recently carried out for a large factory near Liverpool on American lines," for reclaiming rubber.

#### THE LIVERPOOL ELECTRIC CABLE CO., LIMITED.

THIS new enterprise is an outgrowth of the Liverpool Rubber Co., Limited, with the same proprietors as the old company, though separately incorporated for purposes of convenience. The premises occupied, 292, Vauxhall road, Liverpool, are those vacated when the shoe manufacture was removed to the new factory of the Liverpool Rubber Co., at Walton. The old factory, in Vauxhall road, now comprises the rubber thread department, mechanical rubber goods, and electric wires and cables. THE INDIA RUBBER WORLD'S British correspondent lately referred to the products of the new company as having already attracted favorable attention in the trade on account of the superior appearance of their finish.

#### RUBBER GOODS HIGHER IN AUSTRIA-HUNGARY.

AN increase of 10 per cent. in the price of rubber goods went into effect in Austria-Hungary on April 20, as the result of a conference held by the leading manufacturers. The reason given is the same that has led to concerted price advances in Germany and Great Britain—a higher range of cost of raw materials than prevailed when the rubber goods prices lately current were adopted. The advance relates to nearly all soft rubber goods; special prices were fixed for some technical goods and erasing rubber. At the same meeting, says the *Gummi-Zeitung*, rules were adopted regulating tenders for supplying rubber goods required by the state railways—a matter not so well defined hitherto as in Germany.

#### GREAT BRITAIN.

THE property and assets, including patents, of the New Grappler Tyre Co., Limited (Dublin), now in liquidation, have lately been offered for sale. The company at one time did a good business in cycle tires and later, after a reorganization, seemed likely to succeed with motor tires, but they were at a disadvantage from the want of working capital.

=The Forth Rubber Co., Limited (Edinburgh), waterproofers and mechanical rubber and golf ball manufacturers, have decided to go into liquidation.

=Mr. James Crump, for 37 years connected with what is now P. B. Cow & Co., India-rubber manufacturers, London, and since 1887 a member of the firm, has retired from business on account of failing eyesight. He was the head of the counting house, at Cheapside, and on his retirement was presented with a handsome testimonial by the staff.

=The business of The Ixion Tyre and Rubber Co., Limited (London), which went into voluntary liquidation in October, 1902, and will now pay their creditors in full, has been purchased by W. Edmunds, who will carry on the business as a private concern, as The Ixion Rubber Co.

=The India Rubber, Gutta Percha and Telegraph Works Co., Limited (London) have in their pay 4200 employés, and the number (as was stated at the late meeting of the company is ever growing.

=The W. T. Henley's Telegraph Works Co., Limited, have been awarded a contract for cables for the electric lighting of Sydney, New South Wales, reported to amount in value to £40,000.

=One of the best known directors of the Liverpool Rubber Co., Limited, Mr. George Jüger, the well known sugar refiner, was reported in a recent letter to THE INDIA RUBBER WORLD as being very dangerously ill.

#### GERMANY.

ON April 1 a change occurred in the constitution of the firm of Ekert Brothers, for a dozen years or more importers of American rubber shoes in Hamburg. L. Ekert retired, and the business will be continued by the remaining partner, Maximilian Ekert, together with Joseph Ekert, who now enters the firm.

=At the general meeting of the Asbest- und Gummiwerke Alfred Calmon, Aktiengesellschaft (Hamburg), the dividend for the last business year was fixed at 6 per cent. It is stated that the business for the first two months of the present business year showed an increase of 20 per cent. over the same period of last year, and conditions are generally satisfactory.

=Gustav Bucheisen is now the proprietor of the Deutsche Gummi- und Telegrapfenwerke (Berlin-Halensee), and the name of the firm has been changed to Bucheisen & Co.

=The steamship *Stephan*, launched lately at the Vulcan shipyards, at Stettin, for the Norddeutsche Seekabelwerke, A.-G., at Nordenham, is the first vessel built in Germany expressly for cable laying. It has a capacity for carrying 5000 tons of deep sea cable, and will be used this year to lay the new transatlantic cable now building at Nordenham.

=The Continental Caoutchouc- und Guttapercha-Compagnie (Hanover), it is reported, manufacture about 600,000 pneumatic cycle tires annually, and 10,000 inner tubes can be produced daily. Their motor tire department also has reached large dimensions. "Continental" motor tires are now sold in Great Britain under an arrangement with the Clipper Pneumatic Tyre Co., Limited, and it is anticipated that, with the expiration of the Dunlop tire patents, their cycle tires will also be offered in the British market.

=Under the firm name Schuh-, Leder- und Gummi-Co., Weimar, G. m. b. H., the three brothers, Eduard, Karl, and Ferdinand Laux have engaged in the wholesaling of shoe, leather, and rubber goods at Weimar, Germany, with a capital of 150,000 marks.

#### BELGIUM.

THE fourth business report of the Société Anonyme pour le Commerce et l'Industrie du Caoutchouc (Brussels) shows earnings for 1902 of 365,879 francs [= \$70,615], against 208,041 francs for the preceding year. After writing off for all purposes, a dividend of 6½ per cent. was declared on the preferred capital of 1,000,000 francs [= \$193,000] and 2.25 francs each for the 10,000 ordinary shares—a total disbursement of 87,500 francs [= \$16,887.50]. A good business in rubber cut sheet is mentioned especially, the sales in this branch having amounted to 509 251 francs.

#### FRANCE.

GUSTAVE JOB & CIE. (Paris) have been made exclusive agents in France for the sale of the reclaimed rubber products of the North Western Rubber Co., Limited (Liverpool).

A DECREE which takes effect in Ecuador on April 1, 1903, provides for the payment of a premium by the government of 20 cents [= 9.7 cents, gold] for each rubber tree planted, for not less than 500 trees on one plantation, one year old. Natives engaged in rubber cultivation are to be exempt from military service in time of peace. The government has authorized the suspension of rubber gathering in the forests of the western slope of the country for ten years.

## ANNUAL MEETING OF THE NEW ENGLAND RUBBER CLUB.

THE regular Spring dinner of the New England Rubber Club and the third annual meeting occurred on the evening of May 15, at the Exchange Club, Boston.

The occasion was called for the sake of euphony a "Mexican-American Fiesta," on account of introduction of features relating to Mexico, in connection with the development there of the rubber planting interest. Prior to the dinner there was an informal social session of half an hour, followed by a brief business meeting, at which, ex-Governor Bourn being in the chair, the reports for the past year were presented and accepted. They are as follows:

## SECRETARY'S REPORT.

MR. PRESIDENT AND MEMBERS OF THE NEW ENGLAND RUBBER CLUB: The last general meeting of the New England Rubber Club was held at the Exchange Club, Boston, on the evening of May 13, 1902, the president, Augustus O. Bourn, presiding. The reports of the secretary, treasurer, and auditors were read and accepted. A brief amendment to the constitution was proposed, whereby one honorary president and four honorary vice presidents were elected, the offices being filled as follows:

*Honorary President*—ELISHA S. CONVERSE.  
*Honorary Vice Presidents*—GEORGE A. ALDEN, JAMES BENNETT FORSYTH, GEORGE H. HOOD, ROBERT D. EVANS.

The following officers were then elected:

*President*—AUGUSTUS O. BOURN.  
*Vice President*—LEWIS D. APSLEY.  
*Treasurer*—GEORGE P. WHITMORE.  
*Secretary*—HENRY C. PEARSON.  
*Assistant Secretary*—WM. H. GLEASON.  
*Directors*—COSTELLO C. CONVERSE, JOSEPH DAVOL, ALLEN L. COMSTOCK, WALTER S. BALLOU, JOHN H. FLINT, GEORGE H. FORSYTH.  
Adjourned.

A review of the past year of our Club's life shows marked progress. At our last annual meeting the total membership of the Club was 149. It is now 175. We have had during the year five resignations, due to the fact that those resigning had been called to other fields of usefulness, where it would be impossible for them to attend our meetings, and thus could derive no benefit from the Club.

The three regular meetings of the Club during the past year—the Midsummer Outing at the Country Club, and the Spring and Thanksgiving Dinners—were all well attended, and were most enjoyable occasions. The committees on dinners, entertainments, and sports have all had their work well in hand, and everything has moved smoothly and without friction.

As far as we know the members of the Club have all been prosperous and happy, and the Club as a whole might do well to take note of this fact. This organization, being a purely social one, we ought to rejoice over the good fortune of the individual members, and mourn with them over their sorrows. In order to make this practical, I would suggest that we now rejoice with our fellow member, Mr. Barker, over the advent of a diminutive and masculine Barker in his household, and also that we mourn with Treasurer Whitmore over the irreparable loss of his appendix. Respectfully submitted,

HENRY C. PEARSON, Secretary

## TREASURER'S REPORT.

AT THE ANNUAL MEETING OF MEMBERS, ADJOURNED, FROM APRIL 20, 1903, TO MAY 1, 1903.

## RECEIPTS.

Bank balance April 21, 1902.....	\$ 912.57
From members for initiation.....	\$ 115.00
From members for dues.....	1,095.12
From members for dinners.....	940.62
<b>Total.....</b>	<b>\$3,063.31</b>

## DISBURSEMENTS.

Members for overpaid dues.....	\$ 2.50
--------------------------------	---------

Dinners, etc. ....	1,120.47
Flowers .....	50.00
Music and entertainment.....	190.00
Cigars.....	74.67
Prizes and sporting goods.....	31.00
Printing, postage, etc.....	169.61
Bank balance and cash on hand April 20, 1903.....	1,344.54

Total .....	\$3,063.31
Respectfully submitted,	GEORGE P. WHITMORE, Treasurer

## AUDITORS' REPORT.

TO THE MEMBERS OF THE NEW ENGLAND RUBBER CLUB, Boston, Mass.: We hereby certify that we have audited the accounts of the Treasurer for the year ending April 20, 1903, and that same appear to be correct. We further certify that the attached statement of receipts and disbursements for the year also appears to us correct.

J. F. DUNBAR, }  
FOR THE AUDITORS, } ALLEN

A most interesting feature of the dinner was the manufacture, in the presence of the audience, by Mr. W. F. Mayo, of a Mexican milk punch. Mr. Mayo had provided himself with a glass pitcher full of milk and a bottle of alcohol which he combined in a huge punch bowl, all the time talking interestingly about typical Mexican drinks, and when the pouring was finished produced not a beverage but a mass of pure rubber, and then it was that the audience suddenly appreciated that the milk was rubber milk and that they had been very cleverly fooled.

## ANNUAL ELECTION.

THE following officers were then elected:

*President*—LEWIS D. APSLEY.  
*Vice President*—ARTHUR W. STEDMAN.  
*Treasurer*—GEORGE P. WHITMORE.  
*Secretary*—HENRY C. PEARSON.  
*Assistant Secretary*—E. F. WADSWORTH.  
*Directors*—COSTELLO C. CONVERSE, JOSEPH DAVOL, ALLEN L. COMSTOCK, A. M. PAUL, JOHN H. FLINT, GEORGE H. FORSYTH.

On motion of the secretary, Messrs Henry C. Morse and Augustus O. Bourn, former presidents of the Club, were made honorary members. The meeting was then adjourned and those present made their way to the banquet hall above, which was decorated with floral emblems and with the Mexican and American flags artistically entwined. After the dinner the following speakers were heard from: Señor Arthur P. Cushing, Mexican consul at Boston, who represented the Mexican ambassador, and who spoke most interestingly on President Diaz; Lieutenant Godfrey L. Carden, U. S. N., who spoke on foreign industrial conditions, and Mr. Elbert E. Foland, who told several good after-dinner stories; the Hon. William M. Owen, who was present as the guest of Mr. Arthur W. Stedman, and was requisitioned by Toastmaster Apsley to tell what he knew about the isthmus of Tehuantepec, and the Editor of THE INDIA RUBBER WORLD, who was requested to explain why he had gone to Mexico lately, and what he saw there. These speeches were interspersed by music, notably the Mexican national hymn, sung by Mr. Harry Noyes.

Lieutenant Carden had spent several months in Europe, in the interest of the coming St. Louis exposition, and his remarks were most interesting in regard to what may be learned by Americans at St. Louis from the foreign exhibits already assured. Many of these will be of a notable character, and while they will relate mostly to other industries than rubber, the rubber trade would do well to keep advised with regard to mechanical development.



## "CIVILISATION IN CONGOLAND."

THIS is not, like some other recent books, a record of personal observations, but a citation of authorities on conditions existing in the Congo Free State, made by the secretary of the Aborigines Protection Society, a philanthropic organization which has existed in England for three quarters of a century. The author writes, however, in a personal capacity, and not as representing the society with which he is officially connected. This society welcomed the decisions of the international conference of 1884 which paved the way for the Congo Free State, as an earnest of a great civilizing work, and King Leopold, now sovereign of the Free State, was made an honorary member of the society. But for some years past the chief activity of the society has been directed against the scandals and wrongs alleged to exist in the management of the Congo state, in which the will of the sovereign, without legislative or constitutional restraint, is law. Protests and appeals have been made to the Belgian government and likewise to other governments—to the latter because of their implied responsibility, as signers of the treaty of 1884, out of which the Free State grew.

The United States, by the way, though not signing the treaty, exerted an important influence in giving the Free State a start, being the first great power to recognize its independence, after having previously aided in checking a movement to make Portugal, and not Belgium, the trustee of the great African domain. Henry M. Stanley, who discovered the Congo river and planned largely the initial exploitation of that region, was an American, and General Sanford, a former United States minister to Brussels, held the first trading concession in the Free State and was an adviser of the sovereign. For these and other reasons American public sentiment became such as to give great moral support to what the king of the Belgians has always been pleased to term his service to the cause of progress and humanity, albeit his servants might sometimes prove recreant to their trusts and connive at cruelty to the natives gathering rubber and ivory under their guidance.

The author of this book, quoting from a mass of established testimony regarding unsavory conditions on the Congo, is not disposed to fix the blame alone upon the sovereign, but, as indicated on his title page, treats the case as one of "international wrongdoing," on the ground that since the abuses which have been perpetrated on the Congo absolve the treaty powers from further adherence to the compact of 1884, theirs is the responsibility if this crime against civilization is to continue. In the name of humanity the world is called upon to protest against a system under which ignorant black men who have been robbed of their lands are forced at the mouth of rifles to pay heavy taxes from which they derive no benefit, and to gather rubber for private companies who pay their own price for it, while competing buyers are excluded from the country. Yet the Congo Free State was formed on the assurance that absolute free trade should exist throughout its limits.

\* \* \*

THE Congo state is interested in the collection of rubber—the principal source of wealth in that region—in two ways: (1) through its participation in the profits of the great concessionary companies at work in the *Domaine privé*, who monopolize the richest rubber supplies; and (2) through the collection of tribute from the natives "in kind," which is paid chiefly in rubber. Taking leave here of Mr. Fox Bourne's book, we turn to a recent issue of *Le Mouvement Géographique* (Brussels),

"Civilisation in Congo-Land: A Study of International Wrong-Doing." By H. R. Fox Bourne. London: P. S. King & Co., 17, Abchurch Lane, E.C. 4. Cloth, 8vo. Pp. 100. Price, including postage, 1s. 6d.

containing an analysis of the Congo Free State budget for 1903. The revenue for the year is estimated as follows:

Tribute from the natives.....	francs	16,440,000
Customs, dues, licenses, etc.....		11,650,000
Total.....		28,090,000

If we consider now what the natives get in return for their forced contribution of more than half the revenues of the state, the following details from this year's estimate are available:

Force publique [20,000 or more natives hired and armed to compel the others to work].....	francs	7,701,765
Exploitation of the <i>Domaine privé</i> [for the sole benefit of the so called state].....		6,041,790
Administration in Africa.....		3,780,735
Administration in Europe.....		491,100
Marine service.....		2,023,376
Interest on bonds, guarantees on capital, etc.....		1,656,228
Agriculture [nature not explained].....		1,373,932
Foreign affairs and justice.....		1,116,200
Public works.....		1,081,885
All other items.....		2,633,545

Total estimated disbursements..... 27,900,556

Nowhere is there any evidence of expenditures for the bettering of the condition of the native population or for the permanent improvement of the country, save for better facilities for exporting rubber, the supply of which is diminishing every year. *Le Mouvement Géographique*, however, comments on the budget as follows:

The product of the *Domaine privé*, tributes and taxes paid "in kind" by the natives, figures in the budget, of which it is the principal article, at 16,440,000 francs, being an increase of about 1,000,000. Of course, raw products are meant here. We have therefore not as yet arrived at 17,000,000 francs, and the singular decree of June 25, 1902, will not yet show its effects this year. Let us recall that this decree provides that for the purpose of "letting the missionaries and commercial people established on the Congo participate in the prosperity of the State domains --- the direct and personal taxes shall be reduced by one fifth from the moment the product of the *Domaine privé* of the State, the tributes and taxes paid 'in kind' by the natives, will permit of stating in the budget a receipt of 17,000,000 francs." The progression of this item of the budget being given, it can be hoped that from 1904 this reduction will be granted, and that the Independent State of the Congo will offer the rare spectacle of reducing its taxes.

\* \* \*

THE Rev. William M. Morrison, of the American Presbyterian mission on the Congo, after six years of work in that region, arrived at New York on May 16. He intends laying before the government at Washington the question of a protest against conditions in the Congo Free State. Mr. Morrison spoke at a public meeting in London, on May 5, attended by many persons of prominence, giving the results of his experiences in the Congo rubber district, as a result of which the subject has been taken up by the British parliament. On the evening of May 20 the house of commons adopted a resolution that "the government of the Congo state having at its inception guaranteed to the powers that the natives should be governed humanely and, that no trading monopoly or privilege should be permitted, the House requests the government [of Great Britain] to confer with the other signatories of the Berlin general act, in virtue of which the Congo state exists, in order that measures may be adopted to abate the prevalent evils."

In its original form the above resolution recited that the Congo state had violated its obligations under the Berlin treaty, but the British government refused to accept the resolution in that form because it condemned a friendly government without direct evidence. The resolution having been adopted as amended, Great Britain will communicate forthwith with the signatories of the Berlin act, with a view to securing reforms.

## NEW GOODS AND SPECIALTIES IN RUBBER.

## MORRISON'S LIFE BELT.

**T**HIS is a life preserver designed for purposes of comfort and safety in water, for swimmers or others, which may be worn underneath or outside of the bathing suit and can be inflated by the mouth in a few seconds. The belt fits snugly and is adjustable by a single strap.



Side straps are used, however, when the belt is worn outside the bathing suit or for a side stroke swimmer. The belt comprises two air tanks of rubber coated cloth, tested for a good air pressure, long, narrow, and flat, connected over the shoulders by heavy soft rubber air tubes and fastened on the body, between the legs, by one thin strap buckling in front. A screw valve on the end of the inflation tube (four inches long), having a large opening to allow easy and quick inflation, attached at the top of the front tank, reaches to the mouth and hangs down when not in use. This article is convenient to the traveler, as it weighs only 11 ounces, and can be rolled up to carry in the coat pocket if desired. It is especially recommended in teaching persons to swim. [Morrison Life Belt Co., Missouri Trust building, St. Louis, Missouri.]

## A NEW LIFE PRESERVER.

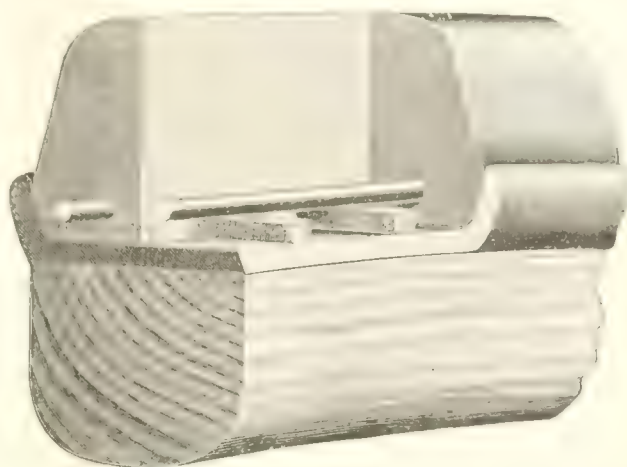
ICILIUS W. MACCOLINI, of Long Island, New York, has obtained a United States patent [No. 721,813] for an invention, the object of which is to provide an improved life preserver, simple in construction and operation, and which may be worn underneath an ordinary body garment, or over such body garment, or without any body garment. A further object is to

provide a life preserver, consisting of two similar sleeve members adapted to being inflated and connected by a transverse neck member, having a neck opening whereby the separate sleeve members are held in proper position when in use. The illustration will give an idea of the form of the article covered by the patent.

## A NEW TIRE FOR HEAVY VEHICLES.

THE Milwaukee Rubber Works Co. (Milwaukee, Wisconsin) will manufacture the improved solid tire shown in the accompanying cut, which is patented. The tire is intended for heavy coach work and as the principles involved are thoroughly practical, this tire is expected to be a great success. Mr. Charles W. Harris, secretary of the company, who is the inventor, has had a number of years experience in the rubber tire business. In service it has been found that the ordinary retaining wires have a tendency to wear or cut through the base of the tire and the object of this invention is to provide means to overcome this difficulty, and thereby lengthen the life of the tire to the natural wear upon its tread. Cross wires to support the retaining wires have been employed, but such devices subject the tire

to a like wear by rust and abrasion and for this reason as well as the expense and trouble of application are objectionable.



These objections are avoided by the employment of frictional fabric strips, that are flexible more in the nature of and adapted to operate with the rubber and at the same time interpose a substantial wearing surface between the retaining wires and the bottom of the channel, thereby protecting the base of the tire, and these fabric strips forming seats for the wires and resting in the channel form also a frictional bearing that materially assists in preventing the creeping of the tire.

## A NOVEL RUBBER DOLL.

THE two illustrations herewith relate to a novelty in the way of a rubber doll, the distinctive feature of which is an elastic

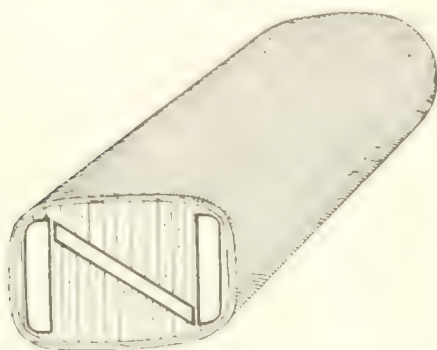
and extensible body permanently filled with air, a diaphragm dividing said body into two compartments connected by openings to permit the transfer of air from one to the other, through sound producing valves. The doll may have a hollow head with means for retaining the same in an inflated condition, and a hollow body portion connected with the head and also inflated, each of the compartments thereby formed serving to retain the other in an inflated condition, while a device between the head and body is adapted to yield a sound on the passage of air from one part to the other. This is understood to be the invention of a Presbyterian clergyman and is protected by United States patent No. 721,948, issued March 13, 1903. It has proved a popular selling article. [Baumann Rubber Co., New Haven, Connecticut.]





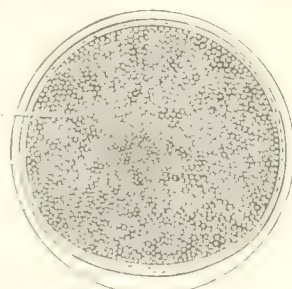
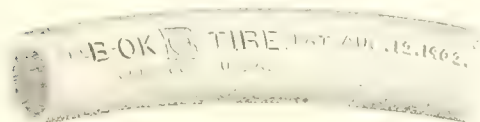
## THE "MONITOR" EXPANSION PACKING.

A NEW form of engine and pump packing in which there are expanding wedges of rubber, and known as the "Monitor," apparently is made on scientific principles. A cross section of the packing shows that it is composed of two triangles—wedges of the best grade of Tuck's—with rubber cushions at either end, and a rubber strip placed diagonally through the center. In use the wedges work next to the rod, the rubber cushions form gaskets, and the center strip allows the wedges to work with perfect freedom, expanding automatically, and following up with the wear on the packing. As a very slight pressure will expand the wedges, the packing lasts much longer than it otherwise would, and it is also applicable to stuffing boxes of varying sizes. [Mulconroy Co., Inc., Nos. 1213-1215 Market street, Philadelphia.]



## THE "B-OK" TIRE.

A NEW tire for motor cycles, automobiles, and general vehicles is known as the B-OK, which term is easily explained by reference to the diagram showing it in cross section. The tire is really a solid one except that the interior of it is sponge rubber held in place by a duck cover lapped over the tread which gives it an extra thickness, and outside of that is a solid rubber cover. There is no doubt but what a tire of this kind will last a good while and if it punctures ever so many times it is by no means injured. A tire of this kind, of course, is a little heavier than a pneumatic of the same size, and for certain purposes it is undoubtedly safer and superior. [The B-OK Tire Co., Chicago, Illinois.]



## THE JONES NON-SLIPPING RUBBER HEEL.

THERE are two features about the ordinary rubber heel that mitigate against its use in many cases. One is that, given an icy surface on which a certain amount of water rests, the heel proves as slippery as if it were made of soap. The second is the fact that, in spite of one's self, the wearer of such heels walks into an office so silently that unless he coughs, kicks over a



chair, or announces himself in some unusual way, he is apt to give the owner of the premises a sudden, and sometimes unpleasant, start. A heel that is designed to do away with both of these vexations is that shown in the illustrations. The desired result is accomplished by the insertion of an oval shaped piece of leather in the middle of the heel which, under wear, roughens a little and prevents slipping, and which also gives in walking the sound that the ordinary leather heel does. A further advantage claimed for this heel is that it is strongly cemented to a thin lift of leather on the under side, by which means it is fastened securely to the shoe. [The Jones Combination Rubber Heel Co., No. 39 Vesey street, New York.]

## AN EXHIBITION OF "GALALITH."

AT the general exhibition in the interest of the hygienic milk supply, held in Hamburg from May 2 to 10, and in which much interest is taken, the exhibit of "Galalith" by the Vereinigte Gummiwaren-Fabriken, Harburg-Wien, is one of the most prominent. This new product, made from the precipitated cheese-matter of skim milk (*casein*), has been exhibited for the first time in its manifold applications. The directors of the above named firm, Herr Senator Carl Maret and Herr Louis Hoff, after the exhibition had been duly opened, explained in detail the manner of manufacture of the various articles made of Galalith. Among the many persons taking an especial interest in this product were Herr Burgomaster Dr. Burchard, Herr Burgomaster Dr. Hachmann, Herr Baron Chr. von Schroder; Senators Dr. Traun, Kähler, Dr. von Melle; State Presidents von Oertzen of Luneburg and Frhr. von Reischwitz-Kardzin-Stade, and many others. All the scientific authorities of the physical institutions evinced great interest in the product, and were unanimous in their prediction of the prominence which Galalith, on account of its many forms of application to general uses, is destined to attain. Especially admired were the marbled sheets for table purposes and wall decorations. Also an artistically worked chess set, consisting of red and black figures. Likewise the products of the Solingen industry, consisting of all sorts of cutlery; the pipe industry of Ruhla, Vienna, etc., consisting of excellent imitations of amber; the manufactures of the comb industry, and the last named article was more especially noticed on account of the beautiful color effect which can be imparted to it; it is not inflammable, like celluloid.—*Gummi Zeitung*.

THE Harburg-Vienna company are understood to have made a large investment in facilities for manufacturing the new material. Their latest yearly business report, issued to the shareholders, states: "After having partly installed the necessary machinery for the production of Galalith, we have recently entered upon its regular manufacture. We manufacture Galalith as a raw material and also partly finished, finding application in the most varied industrial branches. A positive decision, as to how this new industry will develop, can, at present, not be given, but we entertain the hope that it will prove a boon to our company."

AN importation of Ceylon rubber by the Henry A. Gould Co. (New York), being a new article of merchandise to the customs authorities, was detained for examination. On a report by a chemist connected with the service, that the rubber contained traces of sulphur, the rubber was classified as a "partially manufactured" product, and a duty imposed accordingly. On a protest being made to the general appraisers, however, this classification was overruled, and the importation admitted free, as crude rubber.

## RECENT RUBBER PATENTS.

## THE UNITED STATES PATENT RECORD.

ISSUED APRIL 7, 1903.

- N**O. 724,681. Rubber vehicle tire [solid, with metal cross stays engaging in shoulders of the rim]. George E. Dryden, Chicago, Illinois, assignor to Firestone Tire and Rubber Co.
- 724,693. Wheel tire [solid, wired on, with metal tread embodied in the rubber]. Robert S. Graham, assignor to one-fourth to William M. Perkins, both of New York city.
- 724,694. Wheel tire [solid rubber, held in place by a rod extending through it longitudinally and having its ends passed through the rim]. Robert S. Graham, New York city, assignor to one-fourth to William M. Perkins, Brooklyn.
- 724,726. Weather-strip. Solon E. Moore, Putnam, Connecticut.
- 724,830. Pneumatic tire. Wilbraham Edmunds, London, England.
- 724,983. Fountain pen. Paul E. Wirt, Bloomsburg, Pennsylvania.
- 724,984. Fountain pen. Paul E. Wirt, Bloomsburg, Pennsylvania.
- 725,011. Playing ball. Francis H. Richards, Hartford, Connecticut.

*Trade Mark.*

- 40,041. Mackintoshes and rubber coats. Hodgman Rubber Co., New York. *Representative picture.*—The representation of a shield, an eagle surmounting the same, and the letter "H" appearing upon the shield. Used since September 25, 1902.

ISSUED APRIL 14, 1903.

- 725,171. Means for repairing punctured pneumatic tires. Charles R. Sutton, Dayton, assignor to Jesse M. Heckman and Harvery Snell, Union, Ohio.
- 725,270. Vaginal syringe. Orville P. Moon, Lorain, Ohio.
- 725,421. Airbrake hose coupling and valve mechanism. George B. Dinkins, assignor of one-half to James W. Craig and Edward C. Craig, all of Mattoon, Illinois.

ISSUED APRIL 21, 1903.

- 725,727. Wringer. George D. Leedle, Springfield, Ohio.
- 725,954. Atomizer. Moses Goldman, Pittsfield, Massachusetts.
- 726,009. Toy Balloon. Arrah J. Whisler, Newark, New Jersey, assignor to Rubber Balloon Co. of America, New York city.
- 726,095. Exercising apparatus. John E. Nightingale, assignor to Alexander A. Whitely, both of New York city.
- 726,122. Rubber nipple for nursing bottles. Walter F. Ware, Camden, New Jersey.
- 726,164. Cushion [for use by invalids]. Daniel Hogan, New York city, and Christian W. Meinecke, Jersey City, New Jersey, assignors to Meinecke & Co., New York city.
- 726,204. Thermophoric mixture. Ignaz Timar, Berlin, Germany, assignor to Fritz Heiliger, Andernach, Germany.
- 726,208. Combination eraser. Eugenie M. Wilson, Washington, D. C.

ISSUED APRIL 28, 1903.

- 726,357. Dress shield. Frederick A. Schultz, Hasbrouck Heights, New Jersey, assignor to Mattson Rubber Co., New York city.
- 726,400. Tufting machine. William E. Buser, Chillicothe, Ohio.
- 726,405. Cushion heel for boots and shoes. John Coffman and George Dorn, Youngstown, Ohio.
- 726,464. Cushion heel. Henry F. Rooney, Randolph, Massachusetts.
- 726,471. Golf ball. Friend W. Smith, Jr., Bridgeport, Connecticut, assignor to Holdrege Co., New York city.
- 726,495. Fountain pen. John Barnes, assignor to W. F. & John Barnes Co., all of Rockford, Illinois.
- 726,502. Golf ball. George Browning, Hinsdale, and Charles E. Boutwood, Rogers Park, Illinois.
- 726,503. Golf ball. George Browning and Charles E. Boutwood, Hinsdale, Illinois.
- 726,504. Golf ball. *Same.*
- 726,643. Rubber horseshoe. John J. Colleran, Toronto, Canada.
- 726,730. Wire covered hose. John F. McGuire, Akron, Ohio, assignor to The B. F. Goodrich Co.
- 726,784. Life preserver and swimming apparatus. Wiley P. Tibbits, Toledo, Ohio.
- 726,791. Depurator. Charles E. H. Armbuster, Denver, Colorado.

*Trade Mark.*

- 40,226. Certain named electrical conductors or wires. The Okonite

Co., Limited, New York city. *Representative picture.*—A series of circular zone or belt having represented upon its surface woven, plaited or braided strands of cords, and upon or at the surface of the whole "Loopent" is plaited or otherwise represented. Used since March 15, 1903.

[NOTE.—Patents for inventions which have been patented in the United States may be secured from The India Rubber World at a cost of one postpaid.]

## THE BRITISH PATENT RECORD.

[\* *Patent* *Information* *from* *the* *United* *Kingdom*]

ABSTRACTS—1903.

- 4,203. B. Blundstone and D. Moseley & Sons, Limited, Manchester. Improvements in the manufacture of India-rubber goods and apparatus therefor. Feb. 23.
- 4,222. F. Baines, Wellington road, London. Puncture proof shield for pneumatic tires. Feb. 23.
- 4,277. E. B. Killen, Belfast. Solid rubber treading tire. Feb. 24.
- 4,321. E. Girard and M. R. Port, 111, Hacton garden, London. Method of inflating pneumatic tires. Feb. 24.
- 4,343. R. H. Bicknell, Westminster, London. Motor car tires. Feb. 24.
- 4,351. E. E. Gold, 70, Chancery lane, London. Hose coupling. Feb. 24.
- 4,440. L. Eilersten, 72, Cannon street, London. Process for avoiding the change of color of plastic substances used in the manufacture of denture apparatus. Feb. 25.
- 4,522. J. T. Allred, Manchester. Pneumatic tire. Feb. 26.
- 4,695. E. H. Seddon, Manchester. Pneumatic tire. Feb. 28.
- 4,748. J. P. O'Donald, Westminster, London. Hose coupling. Feb. 28.
- 4,788. H. Coyle, Jr., Glasgow. Pneumatic tire. Mar. 2.
- 4,852. A. Brander, 46, Lincoln's Inn Fields, London. Pneumatic tire. Mar. 2.
- 4,864. J. Myers, 40, Chancery lane, London. Packing gasket. Mar. 2.
- 5,067. H. Sandwith, 75, Chancery lane, London. Resilient tire for vehicles. Mar. 4.
- 5,147. R. E. B. Crompton, 55, Chancery lane, London. Armored cover for elastic tires. Mar. 5.
- 5,163. L. Peter, 53, Chancery lane, London. Closing punctured air tubes of tires. (Communicated from Germany.) Mar. 5.
- 5,212. J. Wetter, Strand, London. Elastic tire for vehicles. (H. Bremer, Germany.) Mar. 5.
- 5,222. H. Beckwith, Stockport. Fire hose nozzle. Mar. 6.
- 5,312. Long Acre Motor Car Co., Limited, and two others, London. Improvement in resilient tires and means for attaching same. Mar. 6.
- 5,313. J. Dowell and Allen & Hanbury's, Limited, London. Nipple for nursing bottles. Mar. 6.
- 5,345. E. Gormly and R. J. Hall, Liverpool. Golf ball. Mar. 7.
- 5,354. E. Morgan, Birmingham. Prevention of puncturing and skidding of tires. Mar. 7.
- 5,357. A. B. MacLean, Glasgow. Golf ball. Mar. 7.
- 5,372. G. H. Hill and A. E. Martin, London. Tire puncture preventor. Mar. 7.
- 5,412. D. A. Berry, Northampton. Rubber pad for boots. Mar. 9.
- 5,419. A. A. Wade, Leeds. Eraser. Mar. 9.
- 5,464. L. Ainsworth, 9, Regent street, London. Valve for pneumatic tires. Mar. 9.
- 5,465. L. Ainsworth, London. Means of securing valves to tire tubes. Mar. 9.
- 5,467. S. Meason, 9, Regent street, London. Pneumatic tire. Mar. 9.
- 5,515. H. Grimshaw, Manchester. Rubber vulcanizing device. Mar. 10.
- 5,651. Elizabeth C. Ashmead, Paddington, London. Vaginal syringe. Mar. 10.
- 5,665. E. Fassoirat, 65, Chancery lane, London. Pneumatic tire cover. Mar. 11.
- 5,823. J. Muskett, Manchester. Means of securing pneumatic tires to rims. Mar. 13.
- 5,827. C. A. Beldam, Liverpool. Rubber covering for handles of cricket bats, golf clubs, and the like. Mar. 13.
- 5,882. J. Hickling, 37, Chancery lane, London. Cycle tire. Mar. 13.
- 5,908. L. S. Stroyan, Derby. Golosh. Mar. 14.
- 6,008. J. T. Pearson, Burnley. Pneumatic collision buffers for horseless vehicles. Mar. 16.



- 6,010. J. C. W. Rofe, Plumstead, London. Rubber stopper for bottles. Mar. 16.
- 6,042. R. J. Gray, Chancery lane, London. Golf ball. Mar. 16.
- 6,074. J. M. MacLulich, Chancery lane, London. Pneumatic tire. Mar. 16.
- 6,103. H. D. Traveler and L. L. Miller, Strand, London. Elastic tread horse shoe. Mar. 16.
- 6,129. A. McLaughlin and E. Patten, Wolverhampton. Pneumatic cycle pad. Mar. 17.
- 6,232. E. H. Seddon, Manchester. Pneumatic tire. Mar. 18.
- 6,241. A. Prox, Manchester. Manufacture of rubber rings. Mar. 18.
- 6,332. C. A. F. Gregson and J. Hughes, Birmingham. Re-gutting of golf balls. Mar. 19.
- 6,347. E. Madgley, 173, Fleet street, London. Means of securing pneumatic tires or covers to wheel rims. Mar. 19.
- 6,440. C. A. Richardson, Liverpool. Hose coupling. Mar. 20.
- 6,470. L. E. Amedroz, Chancery lane, London. Golf ball. Mar. 20.
- 6,503. G. Steinberg, 77, Chancery lane, London. Pneumatic tire. Mar. 20.
- 6,564. W. L. Jackson, Glasgow. Means of securing tires to wheel rims. Mar. 21.
- 6,567. A. Vale, Birmingham. Fountain pen. Mar. 21.
- 6,608. F. Poppe and A. L. Poppe, Chancery lane, London. Pneumatic tire. Mar. 21.
- 6,625. F. C. Brown, 53, Chancery lane, London. Fountain pen. Mar. 21.
- \*6,705-6,706-6,707. K. V. Painter, 18, Buckingham street, Strand, London. Golf ball. Mar. 23.
- 6,802. A. E. Turner, 185, Fleet street, London. London. Brake blocks for rubber tires. Mar. 24.
- 6,807. J. L. Wood, Whetstone, Middlesex. Improvements in hose, applicable to syringes. Mar. 24.

## PATENTS GRANTED.

[AS PUBLISHED IN THE OFFICIAL JOURNAL, MARCH 11, 1903.]

- \*22,047 (1901). Elastic vehicle wheel. H. H. Lake, London. (Anglo-American Wheel Within Wheel Co., No. 21 Park row, New York.)
- 22,143 (1901). Protected pneumatic tire. M. Halaubek, Vienna, Austria.
- 22,201 (1901). Rubber sponge. H. H. Lake, London. (Vereinigte Gummiwaaren-Fabriken, Harburg-Wien, Harburg a/d Elbe, Germany.)
- [AS PUBLISHED IN THE OFFICIAL JOURNAL, MARCH 11, 1903.]
- 22,744 (1901). India-rubber tube [relates to connecting-pieces for uniting lengths to form long tubes]. W. P. Thomson, London. (Kölnner Akkumulatoren-Werke, Gottfried Hagen, Kalk, Germany.)
- 22,758 (1901). Method of purifying Gutta-percha. A. Combanaire and J. de La Fresnaye, Paris, France.
- \*22,819 (1901). Elastic heel lift [with non-slipping plug of textile fabric, saturated with rubber cement or solution; applicable also to crutch tips]. H. H. Lake, London. (C. F. Brown, Boston.)
- 22,826 (1901). Cushions or forms [made by stuffing a flexible covering with various materials, the whole molded in a press]. W. Lambert and J. Matas, Chemnitz, Germany.
- \*22,833 (1901). Bottle stopper. C. Marchand, No. 57 Prince street, New York.
- 22,906 (1901). Hoof pad. A. Dales, Manchester.
- \*22,932 (1901). Exercising apparatus. A. Browne, London. (E. Sandow, New York.)

[AS PUBLISHED IN THE OFFICIAL JOURNAL, MARCH 18, 1903.]

- 23,026 (1901). Vehicle tire [with stiff elastic inner chambers]. A. Ducasble, Asnières, France.
- 23,053 (1901). Pneumatic tire with rim for the same. C. H. Gray (India-rubber, Gutta-percha and Telegraph Works Co., Limited) and T. Sloper, Wiltshire.
- 23,117 (1901). Rubber vehicle tire [with an outer protective rim of other material]. A. Mihatsch, Mahrisch Ostrau, Austria.
- 23,133 (1901). Rubber boot heel. G. H. Hickson, Stockton-on-Tees.
- 23,427 (1901). Pneumatic tire. Franz Clouth, Cologne-Nippes, Germany.
- \*23,436 (1901). Solid vehicle tire. R. B. Price, No. 407 Dearborn avenue, Chicago.
- 23,644 (1901). Pneumatic tire [consisting of a series of inflated rubber balls enclosed in a cover]. E. Germain, Nancy, France.
- 23,663 (1901). Pneumatic tire. Franz Clouth, Cologne-Nippes, Germany.

- 23,775 (1901). Vehicle tire [with solid rubber tread, beneath which are series of springs]. C. H. Wilkinson, Huddersfield.
- 23,846 (1901). Method of making golf balls. J. W. Hartley, Stone, Staffordshire.

[AS PUBLISHED IN THE OFFICIAL JOURNAL, MARCH 12, 1903.]

- 23,933 (1901). Hoof pad. F. Symons, Burwood, New South Wales.
- 23,988 (1901). Fountain pen. E. L. Blake and R. H. Platt, Oldham.
- 24,202 (1901). Method of repairing punctured tire tubes. H. T. Stephens, Carmarthen.
- \*24,207 (1901). Pneumatic tire [single tube with tread protected by thick fibrous bands]. H. H. Lake, London. (Punctnot Tire Co., Camden, New Jersey.)
- 24,622 (1901). Pneumatic tire [with leather outer cover]. A. J. Boulton, London. (S. Boccardo, Genoa, Italy.)
- 24,660 (1901). Pneumatic tire. G. W. Dawes, Hyde, Cheshire, and two others.

## THE GERMAN PATENT RECORD.

PATENTS GRANTED.—1903.

- 141,517 (Class 22g). Process for protecting rubber window weather strips from effects of dampness and from sticking together. Lyding & Reinhard, Osterode a/H. Mar. 25.
- 141,611 (Cl. 71b). Elastic lacing for shoes combined with uppers adapted for opening and closing. E. Liebemann, Offenbach a/M. Apr. 1.
- 141,937 (Cl. 30d). Plaster for dental gums consisting of an elastic cap. Hermann F. Stempel, Fort Madison, Iowa, United States. Apr. 8.
- 141,998 (Cl. 71a). Elastic insole for the "Jean François" shoe. C. Breuillard, Paris. Apr. 16.
- 142,166 (Cl. 39b). Process for manufacturing a substitute for Gutta-percha, being an addition to Patent 116,092. Felten & Guillaume Carlswerk, A.-G., Mühlheim a/Rhine. Apr. 22.

## DESIGN PATENTS [GEBRAUCHSMUSTER].

- 195,185 (Class 30d). Nipple with hard rubber knob and a soft rubber mouth piece, for nursing bottles. Mrs. A. Baumert, Berlin. Mar. 25.
- 195,592 (Cl. 21f). Two part insulating piece of hard rubber permitting the reception of any incandescent lamp seat in an insulated metal socket. G. Schanzenbach & Co., Munich. Apr. 1.
- 195,475 (Cl. 34e). Window cleaning device combined with a sponge and an elastic squeegee of soft rubber or leather. A. Damm, Munich. Apr. 1.
- 195,675 (Cl. 34f). Napkin holder combined with an elastic carrier attached at side of neck. E. Malessa, Potsdam. Apr. 1.
- 195,569 (Cl. 63e). Vehicle tire consisting of an air tube protected by a metallic segmental band inserted between it and the hollow felloe. M. Manuel, Mühlhausen i/C. Apr. 1.
- 195,678 (Cl. 63b). Steering bar protectors on motor vehicles, composed of bell shaped rubber buffer attached to the bar. H. Courtois, Eschenbruch. Apr. 1.
- 195,527 (Cl. 64a). Bottle stopper with rubber covering. Bäumcher & Co., Dresden. Apr. 1.
- 195,432 (Cl. 71c). Pneumatic shoe last of rubber, the upper part covered with inelastic cap carrying a back-pressure valve. R. Waxweiler, Cologne a/R. Apr. 1.
- 196,222 (Cl. 34g). Mattress covering with elastic fastening bands. Bassow & Köhler, M-Gladbach. Apr. 8.
- 195,970 (Cl. 39a). Mold for producing tube-like rubber purses. W. Irrgang, Markranstadt. Apr. 8.
- 196,176 (Cl. 63e). Motor-vehicle tires having a concave running surface. Hannoverische Gummi-Kamm-Compagnie, A.-G., Hannover-Limmer. Apr. 8.
- 195,833 (Cl. 39a). Hollow rubber bodies combined with musical reeds. Ungarische Gummiwaaren Fabrik, A.-G., Budapest. Apr. 8.
- 197,108 (Cl. 30d). Vaginal syringe consisting of a thin rubber sphere provided with a heavier rubber tappet combined with a chamfer for manipulation. Dr. Otto Jaenicke, Plaue a/H. Apr. 22.
- 196,253 (Cl. 30g). Rubber syringe with protruding annular collar combined with longitudinal rib on the under part. "Vulkan" Gummiwaaren-Fabrik, Weiss & Baessler, Leipzig. Apr. 22.
- 197,004 (Cl. 77a). Elongated conical shaped striking weapon of rubber, having a grip at one end and a hard resisting substance at the other. H. Kautz, Berlin. Apr. 22.

## APPLICATIONS.

- 19,679 (Class 79b). Cigar making machine with elastic wrapping rollers. Otto Wartmann, London, England. Mar. 25.

**WE MANUFACTURE**  
**Everything in Rubber**

**MECHANICAL RUBBER GOODS**

Hose, Belting, Packing, Valves  
Gaskets, Mats, Matting, Etc.

**DRUGGISTS', SURGEONS' AND STATIONERS'**  
**RUBBER SUNDRIES**

**BICYCLE TIRES**

**SOLID RUBBER VEHICLE TIRES**

**CLINCHER AUTOMOBILE TIRES**

**HASKELL GOLF BALLS**



***The* B. F. GOODRICH COMPANY**

**AKRON RUBBER WORKS**

**AKRON, OHIO**

**NEW YORK, 66-68 Reade St.**

**CHICAGO, 141 Lake St.**

**PHILADELPHIA, 922 Arch St.**

**BOSTON, 157 Summer St.**

**BUFFALO, 9 W. Huron St.**

**DETROIT, 80 E. Congress St.**

**DENVER, 1444 Curtis St.**

**SAN FRANCISCO, 392 Mission St.**

**LONDON, 7 Snow Hill, E. C.**



# Interlocking Rubber Tiling.



As laid down in the Dining Room of the Hotel Essex, Boston, Mass.

It is noiseless, non-slippery, waterproof, thoroughly sanitary and so durable as to last practically a life time without requiring repairs. It may be laid directly upon existing floor, whether of wood, cement, stone or iron, therefore saving the expense of constructing a concrete floor which is absolutely necessary in all other kinds of tiling.

A perfect floor for business offices, banking rooms, court rooms, vestibules, halls, billiard rooms, smoking rooms, cafes, libraries, churches, hospitals, hotels, bathrooms, kitchens, etc.

Samples, estimates and special designs furnished upon application.

SOLE MANUFACTURERS,  
**New York Belting and Packing Co., Ltd.**  
 25 PARK PLACE, NEW YORK.

BALTIMORE, 41 South Liberty Street, BOSTON, 232 Summer Street, PHILADELPHIA, 724 Chestnut Street, INDIANAPOLIS, 229 S. Meridian Street.  
 SAINT LOUIS, 411 N. 3d Street, CHICAGO, 150 Lake Street, SAN FRANCISCO, 509-511 Market Street.

*Mention The India Rubber World when you write.*

ECCE SIGNUM.



## THOROUGHLY RELIABLE.

The policy of furnishing only the finest goods that can be produced with perfect materials, latest and best machinery, and highly skilled workmen of long experience, has been, is now, and will continue to be, the policy of

## The Mechanical Rubber Company,

CHICAGO, ILL.

Branch Store, No. 1810 Blake Street, Denver, Colo., where we carry a full line of goods.

Manufacturers of all kinds of rubber goods for mechanical uses—Hose, Belting, Packing, Gaskets, Bicycle Tires, Specialties, Moulded Goods, Etc., Etc.

If you are unable to satisfy your trade with goods you are supplying,  
 If you are in search of good goods at fair prices,  
 If you cannot get quick deliveries,  
 If you are not getting fair value for your money,  
 IN ANY EVENT,

SEND TO US FOR SAMPLES AND  
 QUOTATIONS. . . . .  
 WE CAN SUIT YOU EVERY WAY.

FACTORY, GRAND AVE. & ROCKWELL STS

**THE MECHANICAL RUBBER CO., 230 Randolph St., Chicago, Ill.**

*Mention the India Rubber World when you write.*

## ANNUAL MEETING OF THE UNITED STATES RUBBER CO.

THE eleventh annual meeting of the stockholders of the United States Rubber Co. was held at 12 o'clock M., on May 19, at the registered offices of the company in New Jersey, at New Brunswick. The annual reports of the president and treasurer were presented and accepted, and directors elected for the ensuing year. The official reports are given herewith in full:

## PRESIDENT'S ANNUAL REPORT.

TO THE STOCKHOLDERS OF THE UNITED STATES RUBBER CO.: The fiscal year of the company ends March 31. Inventories of manufactured goods, stock in process, and materials, are taken as of that date, and the accounts of the company for the year are then closed. Inventories are figured at cost, or market price, whichever may be lowest.

The past season was what is termed "a good rubber winter," so far as weather is concerned, which is reflected in the volume of business done by the United States Rubber Co.

PRICES AND COMPETITION.—Prices for rubber footwear have ranged about the same as the previous year, when there prevailed the lowest prices for rubber boots and shoes (the cost of materials being considered) ever known in the history of the trade.

As an illustration of the low prices for manufactured goods the past two years, it may be mentioned that during that period five companies manufacturing rubber boots and shoes have failed, or have retired from business.

QUANTITY OF GOODS SOLD.—The gross sales of goods by the United States Rubber Co. last year were \$51,888,756.92, as against \$45,917,536.84 the previous year; and the net sales (including miscellaneous goods) were \$28,276,630.58, as against \$25,436,150.59 the previous year—being an increase in gross of 13 per cent., and in net of 11.2 per cent.

EXPORT TRADE.—The export trade of our company, although still in its infancy, also shows an increase over the past year. I regret to state that our European manager of sales, Mr. J. W. Knott, died at London during the year.

CRUDE RUBBER.—We have continued our purchases of crude rubber on substantially the same lines as the previous year—first, through our own importations, and second, through purchases in this market when the prices here were more advantageous than to import direct.

We were interested in the "Acre concession," so called, granted by the Bolivian government to F. W. Whitridge, Esq., in association with Sir Martin Conway, which, however, owing to complications with Brazil, has been abandoned, Brazil paying an indemnity.

CONDITION OF MANUFACTORIES.—The extensive plants of the United States Rubber Co. and its subsidiary companies have been kept in thorough repair, the cost thereof, together with that of improvements made, having been charged to expense account.

TREASURER'S REPORTS.—The treasurer's reports which follow give in detail the "Consolidated General Balance Sheet of the United States Rubber Co. and its Subsidiary Companies." Also, the "Consolidated Income Statement" of the same, for the year ending March 31, 1903.

The income account for the year shows that the company has earned over and above all expenses of every kind and nature, including all interest charges—\$1,342,448.32, as against \$119,495.60 earnings for the previous year.

The General Balance Sheet and Income Account of the United States Rubber Co., separated from its subsidiary companies, is omitted this year, owing to the tendency to confusion where both are given. It may be stated, however, that the deficit shown last year in the balance sheet of the United States Rubber Co. taken by itself has been more than overcome by the earnings of this year.

FUNDED INDEBTEDNESS.—As was stated last year, the entire indebtedness of the United States Rubber Co. and its subsidiary companies, other than the Debentures of the Boston Rubber Shoe Co., was funded into \$12,000,000, 5 per cent. Funding Notes.

By the terms of the Debentures of the Boston Rubber Shoe Co. there must at all times be in the treasury of that company *net* quick assets equal to the full amount of the debentures outstanding, which amount now is \$4,800,000.

There is no mortgage debt of the United States Rubber Co. or of any of its subsidiary companies, and no outstanding notes or debentures of any of said companies other than the Funding Notes and Debentures above mentioned. The cash on hand March 31, 1903, as will be seen by the treasurer's report was \$4,823,830.91.

From the earnings of the past year \$1,000,000 of the Funding Notes have been purchased by the company and delivered to the Morton Trust Co., trustee, and cancelled.

OUR METHOD OF SELLING GOODS.—The recommendation made by your president last year, as to the adoption of a more liberal policy in the sale of our very large product, was, after careful consideration by your directors, approved, and the same went into effect on January 1, 1903, with results so far satisfactory.

The detailed orders received from customers from January 1 to May 15, this year, show an increase of 57 per cent. over the same period last year.

CONCLUSION.—In concluding, I wish to express the thanks of the executive to our heads of departments, superintendents of factories, and employes, who have during the past year shown much earnestness in their work, evincing a determination to do all in their power for the permanent success of the United States Rubber Co.

Respectfully submitted, SAMUEL P. COLT,  
New Brunswick, New Jersey, May 19, 1903. President

## TREASURER'S REPORTS.

UNITED STATES RUBBER CO. AND SUBSIDIARY COMPANIES.  
CONSOLIDATED GENERAL BALANCE SHEET, MARCH 31, 1903.

ASSETS.	
Property and plants.....	\$47,544,286.10
Inventories, manufactured goods, and materials .....	\$11,480,783.18
Cash.....	4,823,830.91
Bills receivable .....	934,251.27
Accounts receivable.....	6,314,301.62
Securities owned, including "Funding Notes" purchased.....	3,865,374.59
Miscellaneous assets.....	755,044.07
Total assets.....	\$75,717,871.74
LIABILITIES.	
Capital stock, Preferred.....	\$23,525,500.00
Capital stock, Common.....	23,666,000.00
Boston Rubber Shoe Co., Debentures.....	4,800,000.00
U. S. Rubber Co., Funding Notes.....	12,000,000.00
Fixed surpluses .....	8,134,849.37
Loan accounts payable.....	\$1,122,000.00
Merchandise accounts payable.....	1,012,644.26
Deferred liabilities.....	72,418.04
Surplus.....	1,384,460.07
Total liabilities.....	\$75,717,871.74

## UNITED STATES RUBBER CO. AND SUBSIDIARY COMPANIES.

## CONSOLIDATED INCOME STATEMENT, YEAR ENDING MARCH 31, 1903.

Gross sales, boots and shoes.....	\$51,888,756.92
Net sales, boots and shoes and miscellaneous.....	\$28,276,630.58
Cost of goods sold.....	24,308,829.70
Manufacturing profits.....	\$3,967,800.88
Freight, taxes, insurance, general and selling expenses.....	1,436,119.64
Operating profits.....	\$2,531,681.24
Other income.....	242,716.57
Total income.....	\$2,774,397.81



## Less:

Interest and commissions on "Funding Notes" and borrowed money	\$785,113.35	
Interest on Boston Rubber Shoe Co. Debentures	240,000.00	
Interest allowed customers for prepayments	154,346.30	1,179,489.65
Net income to surplus	\$1,594,908.10	
Deductions from surplus, bad debts, etc.	252,459.84	
Surplus for period	\$1,342,448.26	
Surplus April 1, 1902	42,011.75	
Surplus March 31, 1903	\$1,384,460.07	
[The treasurer of the company is JAMES B. FORD.]		

## AUDITOR'S REPORT.

We have examined the books and accounts of the United States Rubber Co. and its subsidiary companies for the year ended March 31, 1903, and

We hereby certify that the accompanying Consolidated General Balance Sheet and Consolidated Income and Profit and Loss Accounts agree with the books of the companies, and correctly set forth the financial condition of the companies on March 31, 1903, and the results of their operations for the year ended March 31, 1903, and

That on that date the quick assets of the United States Rubber Co. and its subsidiary companies, including inventories of raw materials and manufactured goods on hand exceeded all the liabilities, other than capital stock, reserves, surplus accounts and the \$12,000,000 collateral funding gold notes, to the extent of \$20,411,479.27.

It is the custom of the company, in lieu of a general charge to depreciation, to charge to expense all betterments and improvements to plants and property.

HASKINS & SELLS,  
Certified Public Accountants

New York, May 1, 1903.

## THE ANNUAL ELECTION.

FIFTEEN directors were elected—the same number as for two

years past—though the by-laws since 1899 have provided for nineteen directors. Two changes were made in the board, Walter S. Ballou, president of the Joseph Banigan Rubber Co., and Ephraim L. Corning, a director in the Boston Rubber Shoe Co., being elected in place of Middleton S. Burrill and the late Frederic C. Sayles. There were 264,890 votes cast, all in favor of the official ticket. The board is now constituted as follows, the figures in parenthesis indicating the number of full terms for which each member has been elected to date:

WALTER S. BALLOU, Providence, Rhode Island. [1]  
E. C. BENEDICT, New York city. [2]  
SAMUEL P. COLT, Providence, Rhode Island. [12]  
E. S. CONVERSE, Boston, Massachusetts. [6]  
H. E. CONVERSE, Boston, Massachusetts. [6]  
COSTELLO C. CONVERSE, Boston, Massachusetts. [3]  
EPHRAIM L. CORNING, Boston, Massachusetts. [1]  
JAMES B. FORD, New York city. [12]  
J. HOWARD FORD, New York city. [12]  
FRANCIS L. HINE, New York city. [2]  
HENRY L. HOTCHKISS, New Haven, Connecticut. [12]  
LESTER LELAND, Boston, Massachusetts. [5]  
FREDERICK M. SHEPARD, East Orange, New Jersey. [12]  
FRANCIS LYNDE STETSON, New York city. [2]  
JOHN D. VERMEULE, New York city. [7]

The newly elected board met in New York on May 22, and after organizing elected the following officers and executive committee for the ensuing year:

President—SAMUEL P. COLT.  
Vice President—COSTELLO C. CONVERSE.  
Second Vice President—LESTER LELAND.  
Treasurer—JAMES B. FORD.  
Secretary—SAMUEL NORRIS.  
Assistant Treasurer—JOHN J. WATSON, JR.  
Assistant Secretary—JOHN D. CARBERRY.

The Executive Committee consists of Samuel P. Colt, Costello C. Converse, Lester Leland, James B. Ford, and E. C. Benedict.

## OFFICIAL BOARDS OF THE CONSTITUENT RUBBER COMPANIES.

## MEYER RUBBER CO.

[Election, March 24, 1903.]

DIRECTORS: Samuel P. Colt, James Deshler, J. Howard Ford, James B. Ford, Lester Leland, H. M. Sadler, Jr., C. C. Converse.

President—J. Howard Ford.

Vice President—H. M. Sadler, Jr.

Treasurer—James B. Ford.

Assistant Treasurer—John J. Watson, Jr.

Secretary—Samuel Norris.

## LYCOMING RUBBER CO.

[Election, May 11, 1903.]

DIRECTORS: J. A. Beeber, Samuel P. Colt, James B. Ford, Lester Leland, S. N. Williams.

President and Treasurer—S. N. Williams.

Secretary—J. A. Beeber.

## BAY STATE RUBBER CO.

[February 18, 1903.]

DIRECTORS: H. E. Converse, Lester Leland, F. T. Ryder.

President—H. E. Converse.

Treasurer—Lester Leland.

Secretary—F. T. Ryder.

## NATIONAL INDIA RUBBER CO.

[Election, April 14, 1903.]

DIRECTORS: Samuel P. Colt, Henry L. Hotchkiss, Charles A. Emerson, William T. C. Wardwell, Frederick T. Ryder.

President and Treasurer—Samuel P. Colt.

Secretary—Walter de F. Brown.

## GOODYEAR'S INDIA RUBBER GLOVE MFG CO.

[Election, May 2, 1903.]

DIRECTORS: John D. Vermeule, James B. Ford, Samuel P. Colt, C. Van Vliet, Lester Leland.

President—J. D. Vermeule.

Treasurer—C. Van Vliet.

Secretary—J. B. Beeber.

## GOODYEAR'S METALLIC RUBBER SHOE CO.

[Election, May 22, 1903.]

DIRECTORS: John D. Vermeule, Lester Leland, Samuel P. Colt, James Ford, Costello C. Converse.

President—Samuel P. Colt.

Treasurer—Wm. T. Rodenbach.

Assistant Treasurer—A. H. Dayton.

Secretary—Charles T. McCarthy.

## BOSTON RUBBER SHOE CO.

[Election, May 4, 1903.]

DIRECTORS: Elisha S. Converse, Ephraim L. Corning, Costello C. Converse, Henry E. Converse, Erskine F. Hickford, Lester Leland, Samuel P. Colt.

President—E. S. Converse.

Vice President—C. C. Converse.

Treasurer and General Manager—Lester Leland.

Assistant Treasurer—Harry P. Ballard.

Secretary and Assistant General Manager—Frederick T. Ryder.

## AMERICAN RUBBER CO.

[Election, May 5, 1902—Election 1903 adjourned.]

DIRECTORS: William R. Dupee, Samuel P. Colt, Harry E. Converse, Lester Leland, Costello C. Converse.

President—William R. Dupee.

Treasurer and Clerk—George P. Eustis.

## BOSTON RUBBER CO.

[Election, May 3, 1903—Election 1903 adjourned.]

DIRECTORS: S. Lewis Gillett, George P. Eustis, Samuel P. Colt, Harry E. Converse, Lester Leland.

President—S. Lewis Gillett.

Treasurer and Clerk—George P. Eustis.

## NEW BRUNSWICK RUBBER CO.

[Election, March 24, 1903.]

DIRECTORS: Samuel P. Colt, James Deshler, James B. Ford, H. M. Sadler, Jr., John J. Watson, Jr.

President—James Deshler.

Treasurer—John J. Watson, Jr.

Secretary—H. M. Sadler, Jr.

## COLCHESTER RUBBER CO.

[Election, 1899.]

DIRECTORS: Samuel P. Colt, Robert D. Evans, Henry T. Bragg, H. M. Sadler, Jr.

President—Samuel P. Colt.

Treasurer—Henry T. Bragg.

## JOSEPH BANIGAN RUBBER CO.

[Election, May 11, 1903.]

DIRECTORS: Walter S. Ballou, Edward R. Rice, Samuel P. Colt, John J. Watson, Jr., Homer E. Sawyer.

President, General Manager and Secretary—Walter S. Ballou.

Treasurer—John J. Watson, Jr.

## WOONSOCKET RUBBER CO.

[Election, May 11, 1903.]

DIRECTORS: Samuel P. Colt, John W. Ellis, Walter A. Read, James Harris, Walter S. Ballou, Homer E. Sawyer, John J. Watson, Jr.

President—Samuel P. Colt.

Treasurer and Secretary—Clarence H. Guild.

General Superintendent—John Robson.

Superintendent—George Schlosser.

## MARVEL RUBBER CO.

[Election, May 11, 1903.]

DIRECTORS: Samuel P. Colt, John W. Ellis, Walter A. Read, James Harris, Walter S. Ballou.

President—Samuel P. Colt.

Treasurer and Secretary—Clarence H. Guild.

## THE L. CANDEE &amp; CO.

[Election, May 11, 1903.]

DIRECTORS: Henry L. Hotchkiss, Samuel P. Colt, James B. Ford, Lester Leland, H. Stuart Hotchkiss.

President—Henry L. Hotchkiss.

Vice President and Secretary—H. Stuart Hotchkiss.

Treasurer—George E. Bailey.

## HAMMOND BUCKLE CO.

President—H. L. Hotchkiss.

Secretary and Treasurer—A. D. Field.

## RUBBER SHOE FACTORIES LATELY CLOSED.

WHILE President Colt, in his report in the foregoing pages, mentions five rubber shoe factories as having been unsuccessful of late, no intimation is given of their identity. In this connection it may be of interest, however, to present a record of the independent shoe factories, founded since the organization of the United States Rubber Co. that are not now doing business:

## MODEL RUBBER CO.

INCORPORATED July 14, 1899, under Rhode Island laws, by former employes of the Woonsocket Rubber Co.; capital stated at \$100,000. A plant costing \$13,000 was built and equipped at Woonsocket, Rhode Island, and the making of third grade shoes begun early in January, 1900—daily capacity 1800 pairs—the first goods being shipped on January 25. The factory was run through the year and then closed indefinitely. May 24, 1901, factory leased to the Empire State Rubber Co., incorporated in Delaware; capital, \$50,000. Work was begun June 3 and continued intermittently a few months. Creditors of the Empire company filed a petition in bankruptcy against it October 29, 1901, and the lease was surrendered December 18. Factory sold August 21, 1902, to Fred L. Smith.

## MILLTOWN INDIA RUBBER CO.

INCORPORATED July 27, 1899, under New Jersey laws, through the efforts of the late John C. Evans, long superintendent for the Meyer Rubber Co.; capital authorized, \$200,000. Factory was built at Milltown, New Jersey, many residents becoming stockholders; amount invested reported at \$145,000. Formal opening of the factory, August 27, 1900. The death of Mr. Evans, president and manager of the company, on February 5, 1902, practically put an end to the business. Receivers were appointed, and at public sale on June 19, 1902, the property was bought by Fred L. Smith for \$66,500.

## BYFIELD RUBBER CO.

INCORPORATED September 10, 1897, under Rhode Island laws; capital, \$25,000. Organized in October of that year, with Fred L. Smith president. Acquired a factory at Bristol, Rhode Island, which was enlarged from time to time, until the daily production reached 4500 pairs of third grade rubber shoes and tennis goods. The factory was closed indefinitely in November, 1901, and on May 16, 1902, Fred L. Smith wrote to THE INDIA RUBBER WORLD: "The writer is president, T. McCarty vice president, and R. G. Burlingame secretary; the stock is held by us."

## CONCORD RUBBER CO.

INCORPORATED April 15, 1899, under Maine laws; capital authorized, \$500,000, of which \$145,000 is reported to have been paid in. Bought unused factory building at Concord Junction, Mass., and began making shoes November 8, 1899; capacity reported at 5000 pairs daily, production probably reached 3000 pairs. Factory closed April 15, 1903.

## THE TEXTILE GOODS MARKET.

IT would require retrospection extending over a long period to find a parallel to the present situation in the market for raw cotton and finished goods. May has been prolific of exciting features, especially in the staple market. The evolution from a condition which was a short time ago entirely in control of the buyer, to one in which the seller wields the scepter, indicates beyond peradventure that prices are governed by other than immediate causes. The feeling is entertained by some of the best posted men in the trade that a pronounced decline in cotton is not unlikely to come very soon, inasmuch as the prices prevailing are not so much the result of a legitimate consumptive demand as they are of the speculative campaign waged by the "bulls" of the cotton pit. Viewed in this light, it is reasonable to look for a condition soon that will rebound to the benefit of both the buyer and seller. This deduction is what has caused so much reluctance on the part of buyers to operate more freely during the month; at the same time the fact must not be lost sight of that the goods that have been

offered were not made from cotton that cost more than 8½ cents, and yet there is very little profit, if any, for the manufacturer even on this basis. That is the reason that he has refrained from granting concessions in scores of instances where business might be greatly stimulated thereby. Instances of curtailment, or shutting down altogether, are numerous in the South and East. There are other manufacturers who believe this course would be impracticable, for obvious reasons. The mills have practically no stocks of goods, for they have sold out nearly everything, and have not been making up stocks at the risk of cotton falling. Few mills, if any, have bought cotton at 12 cents, and those who have done so, are in possession of contracts that must be executed at a certain time. There are a number of mills, on the other hand, who have run out of orders for goods, and have cotton left over. In such cases they have sold the cotton at an immense profit, some of them realizing 4 cents a pound, or \$20 per bale. Following figures are the prices of spot cotton at the various ports:

	New York	New Orleans	London
May 2.....	10.75c.	10 1/2 c.	5.50c.
May 9.....	11.15c.	10 3/4 c.	5.70c.
May 16.....	11.40c.	11 1/4 c.	6.14c.
May 23.....	12.00c.	11 3/4 c.	6.40c.

The operations of the rubber manufacturers in the cloth market have been influenced the same as other consumers by the prices which manufacturers of cotton sheetings and ducks have asked for their products. While the rubber manufacturers have realized keenly the position of the cloth maker, knowing that he has not been receiving a price for his goods that is on a parity with the cost of raw cottons, it has been for the interest of the consumer to refrain from anticipating his requirements in the future, and confine his purchases to immediate needs. The month past has been a quiet one with the rubber consumers of sheetings, as many of them have shut down for their annual repairs, and have therefore not been consuming a great deal of cloth. They are commencing again, however, to attend to their needs, and are visiting the market for sheetings. These goods have not advanced to any extent during the month, although they are firm at quotations, and sellers regard them reasonable when compared with the cost of production. The market is not in possession of abundant supplies of the grade of sheetings which the rubber trade demand, and the mills are not likely to increase the stocks so long as cotton maintains its present level. It therefore behooves the rubber manufacturer to use the best judgment in considering his requirements in this direction. From what can be learned by diligent inquiry among the representatives of the cotton mills making this class of sheetings, there is very little possibility of current prices going down for some time to come. This assertion holds good even though the price of staple cotton goes off materially, for the price of goods is not based on the present price of raw cotton, but on cotton which had been bought at around 8 cents a pound. The rubber trade will therefore find the following prices of sheetings accurate at the present time, with a possibility of advances in case cotton continues to rise:

Forty-inch Majestic C. C..... 6¾ cents.  
 Forty-inch Majestic B. B. .... 6½ cents.  
 Forty-inch Majestic B. B. .... 6½ cents.  
 Forty-inch, Elcaney..... 5½ cents.  
 Thirty-six inch, India..... 5½ cents.

## FABRICS FOR THE RUBBER TRADE.

Sheetings.		40" Selkirk... 6½c.		40" Shamrock... 8 c.	
40" Highgate... 5½c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.
40" Hightown... 5½c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.
40" Hotart... 6 c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.
40" Kingstons... 7 c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.
30" Stonyhurst... 5 c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.
30" Sorosis... 4¾c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.
40" Seefeld... 7 c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.	40" Selkirk... 6½c.



The demand for hose and belting duck has been somewhat disappointing to the textile trade during the whole of May. Manufacturers of hose and belting, in placing their contracts for the year, anticipated a normal demand, but the cold weather of last summer caused considerable of this material to be carried over, and it is doubtful if the maximum quantity is taken, although the past few warm days caused quite a spurt in the demand for hose, which was reflected in the duck market. Concerns buying as they have use for the goods are finding the market strongly against them, and in some cases they are paying a radical advance for their takings. From the present standpoint it looks as if the rubber trade will be compelled to pay a much higher price for textiles when they come into the market to renew contracts this fall.

Felt manufacturers are holding their prices firm at recent advances, and some of them are looking for still higher prices on account of the strong position which wools are holding all over the country. During the past month there has been a very good demand for felts from the manufacturers of boots and shoes. The Binghamton (N. Y.) Felting Co. have been receiving such a flattering demand from the rubber shoe trade that it has greatly increased its capacity for turning out goods.

### THE RUBBER TRADE IN TRENTON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The Reliance Rubber Co., organized in March, expect to begin the manufacture of a general line of mechanical rubber goods about June 1. The company was incorporated April 6 with a capital of \$25,000. The officers are W. Holt Apgar, president; Ezra Evans, vice president; John W. Burd, secretary; Albert W. Lee, treasurer.

The company have leased the old Brookville grist mill just at the northern edge of the city. The building is about 100 x 40 feet, two stories high. The mill has been thoroughly overhauled and remodeled to suit the needs of the lessees and has been equipped with the necessary machinery of the most modern pattern by William R. Thropp, of Trenton. The plant will be operated by water power. Charles A. Joslin, formerly superintendent of the Globe Rubber Co. factory and later connected with the United and Globe company, has been engaged as superintendent. Mr. Joslin stated to your correspondent that the company would make a line of high grade mechanical rubber goods, and when operated to its full capacity the mill would employ fifty hands.

The case of Colton Fulton v. Grieb Rubber Co. was tried in the Mercer court May 14. Fulton was an employé of the company, and in September, 1899, had both hands taken off in the rolls of an India-rubber mixing machine in the defendant company's factory. The plaintiff claimed that a shock from an electric light wire suspended near the machine caused him to slip, throwing his hands between the rolls. The defendant fought the case from every point, and claimed that the accident was the young man's own fault. The jury awarded Fulton \$3,000. The case was a retrial. It was tried first in January, 1902, when the plaintiff was awarded a verdict of \$6,500, which was set aside on appeal. Since the new trial the counsel for the company has made application for a new trial, and Justice Swayze, of the Supreme court, has granted a rule to show cause why a new trial should not be granted. The rule is returnable in June, and will be argued in November.

David Bumster, an employé of The Eureka Rubber Manufacturing Co. of Trenton, had his left arm crushed in the machinery at the mill May 14. He was working on a three-roll

"cracker," the only one in the city, when the sleeve of his jumper caught in the rolls and in an instant his arm was drawn into the machine. His arm was crushed for its entire length, and at the hospital was amputated at the shoulder. He is improving as fast as can be expected. The safety clutch on the machine was quickly applied by a fellow workman and that probably saved his life.

William H. Skirm, Jr., since 1893 secretary of the Empire Rubber Manufacturing Co., resigned that position on May 1. He is succeeded by A. Boyd Cornell, son of Surrogate John W. Cornell, of this county. Mr. Cornell is a graduate of Princeton University, class of '01, and has been connected with the company since his graduation. Mr. Skirm stated to your correspondent that he was not yet ready to announce what his future plans would be, but said that he would not be connected with the rubber industry in this city. Mr. Skirm's father, Gen. William H. Skirm, was long the president of the Empire company.

The Crescent Belting and Packing Co., have installed a battery of four new boilers, of 150 HP. each. The boilers are of the horizontal return tubular type and were built to special specifications by the John E. Thropp & Sons Co. (Trenton), and are housed in a new boiler room of brick, 40 x 30 feet. Arrangements are now under way to extend this addition to a height of three stories, the new stories to be used for additional facilities in the hose and insulated wire departments. The old boiler house will be remodelled into a machine shop, to take care of repairs to the factory.

The employés of the Lambertville Rubber Co. have formed a strong baseball club; James Markey, manager; Walter Scott, secretary; C. Spangler Stiles, treasurer.

The Eureka Rubber Manufacturing Co. of Trenton, which recently began the operation of their new factory, now have all the departments in which the machinery has been installed running on full time. J. A. Lambert, secretary and general manager, states that orders are coming in aggregating twice the capacity of the mill. Two 18" x 50" roll mills have been ordered and are expected soon. They will be installed as soon as they arrive. The company have their own reclaiming plant in operation.

The local union of the International Amalgamated Rubber Workers' Union of America, organized last winter, now has a membership of nearly 900. The union held a big picnic in Hill's grove on Memorial day. Headed by a band the union paraded through the principal streets to the grounds, where a program of sports was given in the afternoon, followed by a dance in the evening. The union has organized a branch in the Mercer Rubber Co.'s mill and is making arrangements to provide the union stamp to those factories that will accept it.

A protracted squabble over the purchase of 5000 feet of new hose for the fire department was settled by the common council on May 19, when that body awarded the contracts as follows: 2500 feet to the United and Globe company, 1250 feet to the Empire company, and 1250 feet to the Crescent Belting and Packing Co. When it was decided to purchase the new hose the fire commissioners recommended that 2500 feet be bought from the United and Globe company and 2500 feet from the Eureka Fire Hose Co. (New York). The fire committee of the council ignored this, and made a counter recommendation that 2500 feet be bought of the United and Globe company, and the balance equally divided between the Crescent and Empire companies. This prevailed. The matter was pending several weeks and created much discussion. The rubber workers' union petitioned the fire committee not to allow any of the contract to go outside the city.

## THE RUBBER TRADE IN AKRON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: There is a specimen of the *genus homo* frequently met with in Akron rubber circles, who, undoubtedly, is a near relative of the gentleman described in THE INDIA RUBBER WORLD for April—"The Man With a Rubber Secret." The specimen in question might be called "The Man With an Invention." His class is a numerous one and the marvelous idea he wishes to exploit may or may not be patented. In general, he and his manner of approach bear close resemblance to the individual possessed of a rubber substitute discovery. He is shy of clerks and salesmen, and even after he is closeted with him, who, he is at last convinced, is the head of the institution, he is apt to carry an air of mystery and to be reluctant to divulge any considerable part of his idea at one time. Instead, he threads his way in and out with many inquiries, some of them calculated to throw his listener off the track as to the nature of the true inwardness of his scheme until he feels that he may reveal himself without being sandbagged and robbed of his idea then and there. And often—most unhappily frequently, does it thereupon develop that the discovery freighting the mind of the caller is new—only to himself. If this is made known to him, it is somewhat more than probable that he will go away believing that he has been deceived and that the motive of the deception is little short of robbery. If this is not the case, the chances are that his "invention" belongs in that class of things which might be made of rubber were they not made of other material more cheaply and better. To convince him of this, however, is more easily said than done, as a rule. As a third instance his idea may possess strikingly original features, but present at once to the experienced manufacturer, busy with lines which he knows are paying the query "Is the game worth the candle? Is the experiment worth undertaking?" The answer is likely to be: "Yes, at the expense of the inventor. If he will advance the funds for experimenting, the experiments will be made and we can determine what the thing is worth. The question of royalties or purchase of patents outright can be considered later." This answer is likely to please the inventive genius not at all, and not until he has met pretty much the same reception in several establishments is he persuaded that he is not being imposed upon and his scheme rejected on grounds of jealousy, a failure to comprehend its true value or because the man to whom he has confided his project wishes secretly to avail himself of it.

All this is quite seriously true. Inquiries among manufacturers demonstrate that but a small percentage of the "brand new things" presented to their more or less willing ears are of value sufficient to make them worth more than a passing thought. And it is likewise true that manufacturers in general do not like to exploit any but absolutely "sure things" at their own expense, agreeing to pay a royalty,—which is always expected, if success attends their efforts. What they are willing to do and prefer to do even in the most promising projects, is to manufacture the goods for the inventor. Show them the invention and talk contracts for the manufacture of the article and they become interested.

Often it is true that the man with an idea wants only to be allowed to do his own experimenting. This, usually, can be arranged and the results are varying—being sometimes a winning thing and sometimes being visible only by the sudden and continuous absence of the experimenter. Men come from afar to conduct experiments in the Akron rubber factories, but a large number of the inventors are indigenous to this soil. A

great many bright young men connected with the local rubber trade are making experiments, the most of them doing this work at home in spare hours. Some not at all identified with the rubber business but desirous of being, are at work also. For the most part these know valuable from valueless ideas and as time goes on their efforts are being made a matter of record at the patent office. Some very excellent inventions are to be placed to the credit of Akron men in and out of the business which has made the city famous.

\* \* \*

IN his annual report to the Board of Public Safety, F. F. Loomis, mechanical engineer of the city of Akron, in charge of fire apparatus, etc., urgently recommends the purchase of an additional wheel to be equipped with rubber tires for all trucks and engines of the fire department for use when streets are icy. He says it would be advisable to have rubber tires on all wheels and especially so if all streets were paved. The rubber tired wheel for use in winter, Mr. Loomis states, will prevent trucks from sliding in going around corners, saving not only the trucks themselves but tending strongly to the prevention of accidents. Inquiry among rubber tire manufacturers brings the information that very many of the fire engines and trucks now manufactured are equipped with rubber tires and that in a number of cities the change from steel to rubber tires is being made on apparatus now in use. The cost of doing this, however, is preventing the making of the change by many who concede the desirability of so doing. It is a branch of the tire business which is not pushed to any great extent by the tire trade, however, as none except the very large cities would have extensive orders to place. The additional cost is scarcely an obstacle in the salesman's path and the offering of rubber tires is a distinct advantage in the soliciting of business.

\* \* \*

THE present season is a record breaker in the hose departments and the demand for garden hose was never greater. The drouth which has prevailed throughout nearly all the states east of the Mississippi and north of Mason and Dixon's line during the greater part of May is in part responsible for it. It is not a case of the hard pushing of goods and great sales because prices are made especially attractive, but one in which hose at any price, almost, within reason, is the demand. The rush promises to keep up during a great part of the summer. "We are a quarter of a million feet behind orders now and are not beginning to catch up as yet," said one prominent manufacturer. The same doubtless is true of other factories.

\* \* \*

THE tire output in Akron for the manufacturers' year now closing is by far greater than it ever was before. How much greater it will be, remains to be seen. It is certain that the busy season will continue later than usual. In general there has been a slight slackening of the pressure which has been so steady since the early part of the winter, but all the factories continue to be extremely busy still. Jobbers are now able to accumulate stocks and the demand from that and similar quarters becomes less insistent. There is every reason to believe that tire contracts for another year will be made at higher figures than for the passing season. The contracts are made for twelve months as a rule, and the advance in the price of raw material has reduced profits on the current year's business. So far as tires are concerned, the increase in crude gum values is for by far the greater part at the expense of the manufacturer. There is some salvation, however, in the steadily increasing knowledge of how to make tires cheaper without reducing, if not, indeed, improving their quality.



In this connection it may not be inappropriate to mention the smile of combined amusement and contempt with which Akron tire manufacturers and rubber men in general, read a recent dispatch in the newspapers, dated Colorado Springs, Colorado, purporting to relate the discovery of a method of tanning pigskin by which it became a substitute for rubber—especially so in the construction of tires. Even from the manufacturers' standpoint, however, the dispatch had one redeeming feature—novelty—rather above the average of "rubber substitute" discoveries.

\* \* \*

THE Akron Machine Co. went into involuntary bankruptcy in the United States circuit court in Cleveland on May 13, and A. H. Commins, of Akron, was appointed receiver and authorized to continue the factory in operation. The Crucible Steel Co. of America are one of the principal creditors. A statement of the assets and liabilities has not been prepared but it is understood they are in the neighborhood of \$60,000 each. This company was not extensively engaged in the rubber machinery line. M. J. Gilbo, the manager, is president and founder of the Rubber Specialty Co., but the embarrassment of the former company will not affect the latter. The recent failure of the Aultman, Miller & Co. contributed to the difficulty of the Akron Machine Co.

President O. C. Barber, of the Diamond Match Co., whose connection with the Diamond Rubber Co. has long coupled his name with the rubber trade, spoke of the labor situation in an address at a banquet of local firemen recently in a way which is being much quoted in Akron and elsewhere. "I do not," he said, "wish to be understood as antagonizing labor unions, but the tendency to shorter and shorter work days, it seems to me, is not without its undesirable side to all of us. If you want much, you must labor much. It was true in Lincoln's time and in the time of our greatest men of to-day. They wanted more than could be obtained in 8 hours of labor in 24 and won it." As the talk was addressed to many labor union men it has been much discussed by them. Mr. Barber spent a large part of May in California.

Colonel George T. Perkins, president of The B. F. Goodrich Co., was president of the Memorial day exercises on May 30. Colonel Perkins has long been depended upon to bear a considerable part of the expense and labor incident to the annual decorating of the graves of the soldiers who sleep the sleep that knows no breaking. Colonel Perkins, by the way, has a most honorable war record. He marched with Sherman to the sea and still suffers occasionally from a bad wound received in action at Chattanooga.

J. W. Kelley, prominent in the offices of The B. F. Goodrich Co., has been appointed a member of the Akron Public Library board. Mr. Kelley is an advocate of branch libraries and through his efforts one will probably be established soon, convenient to the factories of the Goodrich and the Diamond Rubber companies and other large rubber shops of the southern part of the city.

The Portage Golf Club opened their season on Saturday afternoon, May 4, the event being a social function of unusual importance locally. Dr. and Mrs. H. H. Jacobs won the chief awards. The club have arranged many more special events for the season than usual. A new course is being laid out to supply the place of the present links, which are now made less desirable by the erection of a summer home by Colonel George T. Perkins.

The Goodyear Tire and Rubber Co.'s office is so far from the course of the Portage Golf Club that a number of the employés have formed a golf organization of their own and have arranged

a small but excellent course not so far from their office but that it may be readily reached when the day's grind is done. Many of the players are also members of the Portage club.

The national convention of the International Amalgamated Rubber Workers' Union of America, which was scheduled to be held in Akron in June, will not materialize at that time. There is somewhat less interest than formerly and no definite arrangements for the meeting have been made. It may be held in the fall.

Vice President J. A. Swinehart, of the Colonial Tire and Rubber Co. returned on May 19 after several months in Europe in the interest of that company. He recently closed a contract for the manufacture in Russia of the Swinehart side wire tire, which this company control in Europe. With whom the contract was made is not for the present announced. The Colonial company now have contracts for the making of their tire on royalty in all European countries—aside from Great Britain, where the rights are controlled by The B. F. Goodrich Co.—excepting only Belgium. No contract will be made in Belgium, the Colonial company doing business there in their own name. They have the tires manufactured for them in France. Mr. Swinehart was given a reception at his home here by a company of friends the evening of May 22. He reports all the European rubber factories exceedingly busy, especially in making both pneumatic and solid tires.

The Firestone Tire and Rubber Co. have had the busiest spring in their history and are still working double turn. They are making a large number of 6-inch tires for steam and electric trucks. The need of additional room is being felt and the company's office will probably be moved into another building in order to provide it.

The Stein Double Cushion Tire Co. have not completed their tests and experiments with their "Bike" wagon tire which was brought out early the present spring. For their regular tires they have had a good demand. The company are planning to engage also in the manufacture of automobile tires in time for next season's business.

Charles H. Wheeler, formerly president of The India Rubber Co., has purchased a farm near Kent, ten miles from Akron, and is enthusiastic in its management. He will spend much of the summer there.

Superintendent Joseph Dangel, of the local plant of the American Hard Rubber Co., sailed from New York, on May 28, to visit Mrs. Dangel's mother in Germany.

Vice President B. G. Work, of The B. F. Goodrich Co., accompanied by Mrs. Work, is spending several weeks abroad. They will return in June.

H. E. Raymond, sales manager of The B. F. Goodrich Co., believes with President Roosevelt in working hard when at work and playing with all his might when at play. Following his custom of the past dozen years he will spend July and August abroad.

No decision has been reached, it is said, with reference to the rebuilding of the plant of The India Rubber Co., destroyed by fire on March 26. There are rumors that the works are to be reestablished at Brunswick, New Jersey, where the Rubber Goods Manufacturing Co., of which the India Co. are a part, have a factory. These are all unverified. Wreckage of the fire is being overhauled and disposed of, rubber stock of any value being sent to other factories of the Rubber Goods company. The machine shop, which was not destroyed, is in operation on orders for these other factories also. While no statement as to the future has been made either by President L. D. Parker, who has been here, or by W. L. Wild, the local manager, it is understood in Akron that the works are not to be rebuilt in this city.

## AN INTERVIEW WITH COLONEL POPE.

THE Pope Manufacturing Co., incorporated in New Jersey on February 27 last, with \$22,500 capital, on May 1 filed with the secretary of state amended articles of incorporation, increasing the authorized capitalization to \$22,500,000. The plan involves the issue of 25,000 shares of 6 per cent. cumulative first preferred stock; 100,000 shares 5 per cent. second preferred stock, cumulative after February 1, 1905; and 100,000 shares common stock. The object of the new company, as already stated in these pages, is to acquire the business of the American Bicycle Co. and the related companies.

On May 14 Colonel Albert A. Pope assumed actively the duties of president of the Pope Manufacturing Co., in the old quarters of the American Bicycle Co., No. 19 Park row, New York. It is understood that one of the first departments to be organized in the new company was that having charge of advertising, though extensive advertising will not begin until next season. President Pope is quoted as saying: "Starting now, at a time of year when bicycle manufacturers usually owe a lot of money, we are free from debt, have plenty of capital, and a determination to restore the bicycle to the place where it belongs."

The great amount of interest that rubber manufacturers have long felt in the work of Colonel Pope led THE INDIA RUBBER WORLD to seek him in his Park row sanctum recently and indulge in a heart-to-heart talk with the foremost figure in the manufacture of American bicycles. In appearance the Colonel is as young as he was five years ago, and he is full of his old time energy and enthusiasm. A point of paramount importance that the interviewer wished settled was whether the new Pope Manufacturing Co. intended to purchase their tires of existing rubber manufacturers, or whether they would erect a new factory and manufacture for themselves. This question was fired at the Colonel at the start, and with his usual alertness he promptly said that it was not a fair question, and that if it was he should have to be excused from answering. Speaking further of tires he said that, although the type of tire was a matter for experts to settle, he still believed that the single tube was as practical and popular as ever, and as far as he could see was likely to continue so.

Defining briefly the policy of the new company, Colonel Pope said that last year, which was a bad year for the sale of bicycles, there were sold something like 600,000 wheels, and that although nobody had any definite figures, during the palmiest days of the bicycle manufacture there were something like 1,500,000 wheels made in a year. A point that he emphasized was that this was before the cheap wheels had come into the market and purchasers had become disgusted with inferior products. Replying to a question he said that he believed that there was a normal market in the United States for 1,000,000 wheels a year. The plan of the company now is to turn out high grade wheels at a fair price; his theory being that there are thousands of people who would rather pay \$60 for a good wheel than to pay \$40 for one of another sort. When asked if the price of bicycles as a rule would be lower than they have been in the past, the Colonel waxed highly indignant, pointing out that as all the companies had lost money at the present

prices, the natural policy must be better goods at a higher price.

Colonel Pope makes no secret of favoring a comprehensive plan for interesting the whole American public in cycling, and as a beginning has formed a Publicity Department at the head of which is one of his Boston lieutenants, R. L. Winkley. He also expressed himself in favor of the suggestion that automobile clubs admit bicycle riders, giving them the same attention and service that automobilists have, and further that in their own interest automobilists, bicyclists, and good roads men should all stand together. He felt that if they did so very rapid progress would be made, better laws passed, and that the time would come—and very shortly—when in a city like New York it would be as much against the law to drive a horse through the street as it is at present to drive cattle and hogs.

Colonel Pope on May 19 paid a visit to the "Columbia" bicycle factory at Hartford, Connecticut—the factory in which his successes as a bicycle manufacturer were won. At a luncheon spread in the dining room of the factory, in a speech to the 800 employés, Colonel Pope said, as reported in *The Bicycling World*:

"Now I have come back to my own. Much against my will, but on the advice of my friends, some of whom perhaps were not friends, I sold out this plant, believing that things would go on as well as ever. But it was a mistake; forty-four concerns all tumbled to ruin under that management. My advice was never listened to, and the forty-four concerns combined against me. I have returned under the only conditions that would bring me back—at the head of the concern."

Colonel Pope will reside hereafter in New York, where his office is. The full list of officers of the Pope manufacturing Co. has not yet been completed. There are now fifteen factories under control of the company. Colonel Pope celebrated his sixtieth birthday on May 20.



ALBERT A. POPE.

## GUTTA-PERCHA COMPOUND.

IN order to obtain in a single preparation the combined properties of Gutta-percha and cement, Emil Herbst, D. D. S. of Germany, has devised the following method: A given quantity of cement powder is mixed thoroughly with an equal amount of base-plate Gutta-percha filings, and into the resulting mixture a small amount of cement liquid is incorporated. This paste becomes thoroughly hard and can be advantageously used in setting crowns and bridges. It becomes soft and malleable when heated, and therefore a bridge set with it can be easily removed. Incidentally he refers to another method of obtaining a Gutta-percha-cement compound, which consists in mixing together equal quantities of cement paste and Gutta-percha solution. This combination makes a preparation which easily adheres to the walls of the tooth and becomes slightly soft upon being heated. Dr. Herbst offers these methods as mere suggestions on the possibilities of mixing cement with Gutta-percha with the object of obtaining a material possessing the advantages of both, and he says that the results obtained in the few cases in which he has tried the combination would warrant its further trial by the profession.—[Abstracted by *The Dental Cosmos* from the *Deutsche Zahnärztliche Wochenschrift*.]



## A LATHE FOR HARD RUBBER.

THE lathe shown in the accompanying illustration is made specially for hard rubber work. It has a swing of 10 inches and will turn stock as long as 15 inches. When the

character of the work requires it, the lathe is fitted with a hollow spindle by means of which longer stock, up to  $\frac{1}{2}$  inch in diameter, can be turned. By using a fraizing tool, stock not longer than 6 inches can be turned down to  $\frac{1}{8}$  of an inch in diameter. Attached to the headstock and tailstock are adjustable tool-holder

rests. When short stock is to be worked, the tailstock can be taken off and the steady rest used as a tool holder rest, thus enabling the lathe to be operated rapidly and conveniently.

On the spindle, to the left of the driving pulleys, is the threading hub which engages the leader, or chasing finger, attached to one end of the threading tool holder. This is so made as to be easily removed from the spindle, thus making it possible to cut any desired number of threads on the lathe.

The lathe is fitted with a very accurate universal chuck, which can be easily removed and the faceplate, shown in illustration, can be readily attached. It is driven by tight and loose pulleys,  $3\frac{1}{2}$  inches in diameter by  $1\frac{1}{8}$  inch face, and, for the work it is generally used, runs at about 2000 revolutions per minute.

The lathe, as shown, stands 3 feet 6 inches high to the center of the spindle, and is fitted with a hard wood shelf at the back. When the lathe is used with the short legs it stands 12 inches high to the center of the spindle. When desired, a special bed is furnished by means of which the lathe can be bolted to the side of a bench.

A faceplate, short and long tool rests, two tool holders, one threading tool holder, extra centers, necessary wrenches, etc., are furnished with each lathe. The shipping weight of the lathe is 225 pounds with the long legs and 165 pounds with the short legs. That the lathe is serving its purpose well is shown by the fact that hundreds have been manufactured during the past thirty years. They are manufactured by James Smith, Seymour, Connecticut.

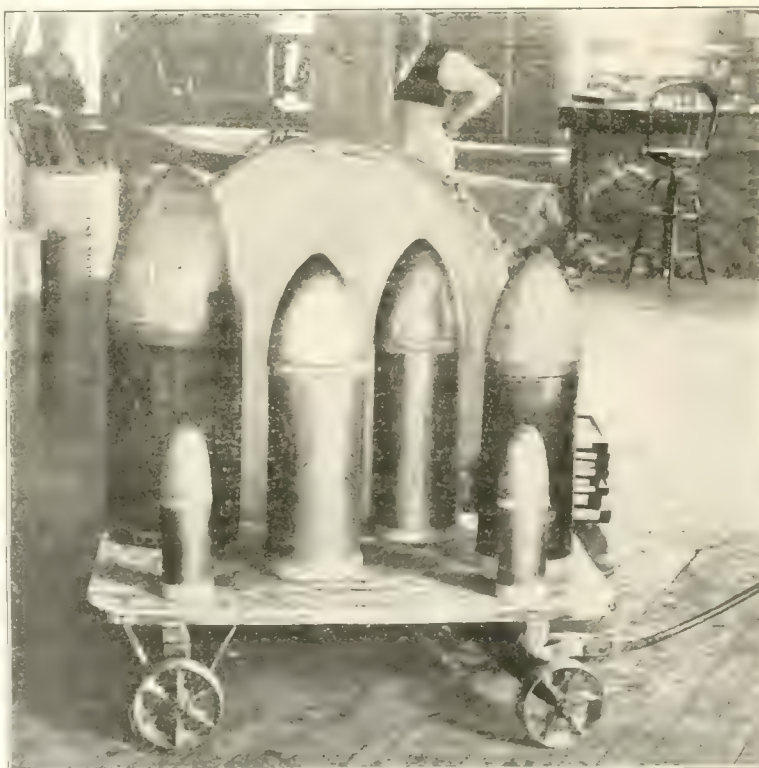
The chuck referred to above was invented by James Smith in the "sixties" and is claimed to be the first universal chuck invented in the United States. That it answers the purpose for which it was designed is attested by the fact that it has been manufactured continuously since the time it was invented, in spite of the many that have appeared on the market since that time.

## RUBBER SHELLS IN ARTILLERY PRACTICE.

AN interesting illustration of one of the many uses to which rubber is adapted was recently given in Brooklyn (New York) at a public exhibition in the armory of the Thirteenth regiment. The occasion was the review of the regiment by William Cary Sanger, assistant secretary of war of the United States. A novel portion of the evening's exercises consisted of artillery practice with 4 inch and 8 inch India-rubber shells. The squad in charge of the 4 inch gun succeeded in hitting the target almost every shot. The best shot of the performance however—and indeed the best shot ever made in this kind of practice—was made by the squad in charge of the 8 inch gun, who hit a target consisting of a cartridge placed upright on the floor. Altogether, it was a remarkable demonstration of what may be accomplished by indoor artillery practice in all the large armories in the country and caused much favorable comment from the members of the regular army who were present.

The difficult part of the construction of shells for this work was to get an article which would take the rifling of the gun without being soon cut up and destroyed, or fit so tightly as to destroy the progress of the shot, on account of the friction. A number of experimental shells had been made previously, but they all failed in this point, being wabby and so uncertain, that one shot following another would hardly ever strike in the same spot. The present shells, however, are so successful, that when a rifle is once aimed, the shots will continue hitting the target, one after the other, thus making practice work of real practical value. The rubber shells, of which a photograph is here given, were made by the Voorhees Rubber Manufacturing Co. (Jersey City, New Jersey) who have made a reputation as manufacturers of difficult specialties.

It may interest some of our readers to state that the father of Mr. Sanger, named above, was one of the old New York firm of Cary, Howard & Sanger, in which the late Richard Butler was an unnamed partner, and who jobbed rubber goods.



## RUBBER AND GUTTA-PERCHA EXPLOITATION.

## GUTTA-PERCHA CONCESSION FOR AN AMERICAN.

WILLIAM ALLEYNE IRELAND, of Boston, Massachusetts, has obtained from the government of British North Borneo a concession entitling him to select any number of tracts of land within the domain of that government, not exceeding in the aggregate 20,000 acres, for the purpose of collecting native India rubber and Gutta-percha, under exclusive rights, and of planting and cultivating native or foreign species of India-rubber and Gutta-percha. The lessee is to form a company with a capital of not less than \$100,000, gold, and to prospect for and select with as little delay as possible suitable lands, for which purpose two years, from September 22, 1902, will be allowed. Within one year from the selection of each tract, the work of developing it must be begun. The term of the lease is 999 years. A nominal sum in the form of quit rent is to be paid each year to the government, and all India-rubber or Gutta-percha produced shall be liable to an export duty—not more than 10 per cent. *ad valorem*, based upon current prices at Sandakan, and in no case more than is exacted of other shippers from the state. The lessee in selecting any tract may apply for the privilege of removing timber or other produce than India-rubber and Gutta-percha, but in all cases the mineral rights are reserved to the government. The concession also contains specifications respecting the planting of India-rubber and Gutta-percha.

Mr. Ireland was lately in British North Borneo engaged in the study of problems of colonial administration, as one of the special commissioners sent out for this purpose by the University of Chicago. He is a brilliant writer and lecturer, whose topics generally have related to systems of colonial government. He has published works on "Tropical Colonization," "The Anglo-Boer Conflict," "Demarariana," etc., and numerous contributions to the *North American Review*, *Atlantic Monthly*, and other periodicals. He has spent many years in Australia, the East and West Indies, and other tropical countries.

British North Borneo, in the extreme northern portion of the island, has an area of about 40,000 square miles. The capital, Sandakan, is 1000 miles from Singapore, 660 miles from Manila, and only separated by the Sulu sea from the southern Philippine islands. Gutta-percha has been found in every part of Borneo yet explored, and to day the island ranks next to Sumatra in the total production of Gutta-percha. British North Borneo of late has shipped considerable gutta, though the trade has been left entirely to the Chinese, and no comprehensive plans for the exploitation of the interior have been undertaken. American capital on a large scale in that quarter would be welcomed by other traders than the Chinese, as it would tend, in connection with American interests now developing in the nearby Philippines, to break the Chinese monopoly in Gutta-percha which has existed so long.

## A ONE HUNDRED PER CENT. DIVIDEND.

ANTWERP journals predict that at the general assembly of the Anglo-Belgian India-Rubber and Exploration Co. (the Société A B I R), on June 1, when the reports for 1902 will be presented, a dividend of 500 francs per share will be declared. Originally the capital was stated at 1,000,000 francs—2000 shares of 500 francs each. Since the reconstruction of the company the capital has been given as 2000 shares, value not stated, but the actual amount of capital is supposed not to have

been changed. A dividend of 500 francs per share, therefore, means a dividend of 100 per cent. One half the profits go to the Congo Free State, in return for which the Société A B I R have a monopoly for thirty years of about 470 square miles of rubber territory, on the Lopori and Maringa rivers, in the Equateur district. The business of the company has been less profitable of late, however, than in some former years. The dividend for two years ago was 2100 francs per share, equal to 420 per cent. At the beginning of 1901 shares were sold as high as 28,925 francs, or practically 60 for one; on May 1 last, the quotation was only 15,350 francs. During 1902 THE INDIA RUBBER WORLD recorded arrivals of rubber at Antwerp for the account of the Société A B I R to the extent of 841,060 pounds. A dividend of 100 per cent. on the company's capital would require a profit of 23 cents per pound on this amount of rubber.

## RUBBER PLANTING IN UGANDA.

In a report on the "Exotic Plants of Economic Interest in the Botanic Gardens at Entebbe, Uganda," Mr. J. Mahon, in charge, writes: "We have a large number of *Landolphia* seedlings which were obtained from Sesse [Islands] in 1900. Nothing is more puzzling than the slow rate at which this common native plant grows under cultivation. It is quite clear that it requires to be sown where it is intended the plants are to remain. It resents transplanting, and some seedlings we put at the base of trees in a stretch of forest to grow *au naturel* have remained practically as they were put out six months ago." There are large areas in Uganda (British East Africa) containing an abundance of *Landolphia* vines yielding excellent rubber, but as Mr. Mahon regards it "practically impossible to cultivate this plant," the botanical department is experimenting with all the celebrated rubber yielding trees with a view to demonstrating whether that country offers a field for establishing rubber plantations on a commercial basis. He regards it as only a question of the activity of traders to determine how long the natural supplies of rubber (*Landolphia*) will last. He reports the favorable growth of *Hevea*, *Castilloa elastica*, and *Manihot Glaziovii*.

## ECUADOR RUBBER AND DEVELOPMENT CO.

[See THE INDIA RUBBER WORLD, December 1, 1902, page 307.]

THE Hon. David Secor, treasurer of this company, who has been recently in Ecuador, cabled home that the purchase had been concluded of important additional rubber properties on which an option had been held, as already reported in these pages. The option had been obtained by other members of the company, subject to approval by Mr. Secor. The company's headquarters are at Winnebago City, Minnesota.

## LOS ANDES RUBBER, LUMBER AND FRUIT CO.

[See the INDIA RUBBER WORLD, February 1, 1903, page 107.]

At a meeting of the newly elected directors, in New Orleans, on May 6, the following officers were elected: Frank A. Daniels, president; E. H. McFall, vice president; T. Duncan, treasurer; George Montgomery, Secretary. The company (incorporated in Louisiana in September, 1901) now hold 500 *manazanias* [=9176 acres] of land under a concession from Guatemala, instead of 200 *manazanias*, as at the beginning. The location is 30 miles from Port Barrios. Banana shipments are now being made, and a rubber plantation has been formed.

THE Tehuantepec Rubber Culture Co. have removed their New York offices from No. 35 Nassau street to No. 81 Wall street.



## NEWS OF THE AMERICAN RUBBER TRADE.

## GOOD BUSINESS OF THE OKONITE CO., LIMITED.

THE London *Financial Times* prints a very favorable report of the second year's business of The Okonite Co., dating from the reorganization, since which time the principal management has been in America. It says: "The profits were sufficient, after allowing for all charges, to pay 6 per cent. on the ordinary shares and to carry forward £18,500, making, with the balance brought forward from 1901, when no dividend was distributed, a total surplus of £27,900. In addition, during the two years, £5900 has been placed in trust for bond redemption, and notes outstanding for borrowed money to the extent of £17,200 have been extinguished. The only obligation for notes now is all against merchandise. The chairman at the meeting in America the other day stated that business had been better than ever so far this year, and that the company has been compelled by expanding orders, to add to its buildings and plant."

## EUREKA FIRE HOSE CO. STILL BUILDING.

AN extension is being built to the plant in Jersey City, New Jersey, to afford additional space needed by the twisting and weaving departments. The extension is about 116×50 feet, with four floors, and will make the total area of the company's main brick factory about 3 acres. With the extension, the main building will be 366 feet long and average 90 feet in width, all being four stories in height. The machinery to be installed will be electrically driven and the electric lighting, telephone, and fire alarm systems of the present mill will be extended into the new structure.

## BOSTON RUBBER SHOE CO.'S AFFAIRS.

THE latest annual statement of condition, required by law to be filed with the commissioner of corporations of Massachusetts, makes the following showing, as of date April 1, 1903:

ASSETS.		LIABILITIES.	
Plant—Malden .....	\$32,400	Capital stock .....	\$5,000,000
Malden Last Co. ....	27,000	Balance profit and loss ..	996,965
Melrose .....	399,125	Debtenture bonds .....	4,800,000
Machinery—Malden ...	229,553	Accrued interest on bonds	
Malden Last Co. ....	10,000	and pay-roll not due ..	59,290
Melrose .....	125,235	Total .....	\$10,856,256
Cash and debts receivable	2,288,675		
*Special contract U. S.			
Rubber Co. ....	4,800,000		
Merchan Disc. ....	2,020,837		
Miscellaneous .....	17,430		
Total .....	\$10,856,256		

The holdings of shares are reported as follows: E. S. Converse, 25,740; Industrial Trust Co., trustee, 8400; C. C. Converse, 5562; Mrs. E. M. Chick, 4663; Fred T. Ryder, 2000; H. E. Converse, 1000; Mrs. F. C. Leland, 500; Mrs. M. D. Converse, 500; E. L. Corning, 500; Mrs. M. I. Converse, 500; E. T. Bickford 275; Samuel P. Colt, 200; Mrs. J. L. Bickford, 100; Lester Leland, 60; total, 50,000.

## A CHARGE OF FRAUD NOT SUSTAINED.

ON May 6, at New York, occurred a final hearing in the case of one James B. Kellogg, who had been held in \$2500 bail on a charge of conspiring to violate the postal laws. One count in the charge connected Kellogg with the use of the mails in promoting The International Wheel, Tire, and Rubber Manufacturing Co. [See THE INDIA RUBBER WORLD, April 1, 1903—page 245]. At the hearing it was testified that the company had been organized in good faith to make tires, for which purpose it had purchased a rubber plant at New Brunswick, New

Jersey; that company shares had been offered to the public, but a certain publication in a New York newspaper made investors suspicious, and the sale of shares ceased, leaving the company unable to carry out its plans. The proof offered failed either to show that the enterprise was fraudulent in intent, or to connect Kellogg directly with its affairs, whereupon he was discharged from custody.

## DEFUNCT RUBBER CORPORATIONS.

A RECENT proclamation by the governor of New Jersey declares the charters of certain named corporations to be void, on account of their failure to pay the corporation taxes assessed against them in that state for the year 1900. Following are the names of such concerns related to the rubber trade, together with further details in regard to some of them:

American Commercial Rubber Co., Elizabeth, N. J., incorporated February 9, 1899; capital, \$250,000; waterproofing cloth for the trade; receiver appointed in April, 1900.

American Rubber Horseshoe Co., incorporated August 16, 1899, by Buffalo (N. Y.) and New Jersey parties; principal office, Jersey City, N. J.; capital, \$100,000.

Artificial Rubber Co., Philadelphia, Pa., incorporated February 4, 1899; capital, \$1,000,000; manufacture of a substitute for rubber.

Continental Crude Rubber Co.

Enterprise Rubber Co., Trenton, N. J., incorporated August 22, 1899; capital, \$25,000; manufacture of heels and soles and mold work.

Insulated Wire Co.

Malachite Rubber Specialty Co.

Mears Rubber Horseshoe Co.

Mutual Rubber Manufacturing Co., Trenton, N. J., incorporated March 23, 1899; capital, \$125,000; rubber brokerage, with permission in the charter to engage in manufacturing.

New Jersey Hard Rubber Novelty Co.

Rigby Waterproofing Co., New York city, incorporated in March, 1899; capital, \$300,000; waterproofing cloth by the Rigby—an English—process.

Single Tube Tire Co., incorporated late in 1897, by leading American manufacturers, to introduce single tube cycle tires in Europe; business succeeded by The Single Tube Tires, Limited, of London.

Waterbury Rubber Co., New York city, incorporated in 1888; business succeeded by the Waterbury Rubber Manufacturing Co., incorporated by the same parties July 3, 1901; capital, \$100,000.

## AN ACTION FOR DAMAGES IN CANADA.

IN 1900, Hugh McCaugherty, aged 17, while at work at a calender, keeping the rollers clean, in the factory of the Gutta-Percha and Rubber Manufacturing Co. of Toronto, Limited, sustained the loss of all his fingers, and later sued the company for \$10,000 damages and \$2000 for doctors' bills. The trial was before a jury, under the common law in relation to negligence of employers, a verdict resulting on September 30, 1901. The jury found that the machine was a dangerous one, and that the accident was due to defective condition or arrangement of the works, in that the calender rolls were not provided with guards; that the defendants had not used reasonable care to protect their employé, and that the plaintiff by the exercise of ordinary care could not have avoided the accident. The only expert witness introduced by the plaintiff was a machinist without experience in a rubber mill, whereas the defendant offered the testimony of the builders of the calender and of several experienced rubber factory managers to the effect that the calender was of the usual kind, that guards for the rollers were never used, and were not necessary and would interfere with the working of the machine. Damages were awarded in the sum of \$2000, against which verdict the company appealed.

In the higher court, although the practice is not to question the findings of facts in a trial court, the treatment by the jury of the expert evidence in this case was strongly criticised. The decision stated that, in view of the testimony offered, which proved the machinery to have been one of reasonable safety, the case had not been one for a jury. The court of appeal held, however, that the defendants had been negligent in not providing a better seat for the lad while at work, and awarded damages under the "workmen's compensation act," allowing the maximum limit under that act, \$1500.

The company would have preferred to settle the case out of court, but a trial was insisted upon by the accident insurance company liable for the damages. The interest of the matter to the trade in Canada is that this case marks another step toward getting this class of suits tried under the "workmen's compensation act," instead of under the common law, where no limit of liability is fixed. Another point is that without the appeal a precedent would have been established of damages allowed on account of the absence of guards from the calender rolls, to be quoted in all future similar cases.

#### RUBBER FOOTWEAR FOR THE POOR INDIANS.

THE Edwards-Stanwood Shoe Co. (Chicago) on April 29 were awarded a contract, by the government bureau of Indian affairs, for the following quantity of rubber footwear for the use of the Indians under the care of the government, for the ensuing year:

796 pairs men's boots.	387 pairs boys' overshoes.
2409 " boys' arctics.	405 " misses' overshoes.
1250 " misses' arctics.	1570 " women's overshoes.
1883 " women's arctics.	215 " men's overshoes.
1297 " men's arctics.	

#### THE MERCHANTS' RUBBER CO., LIMITED.

THIS is a new manufacturing concern, located at Berlin, Ontario, formed to engage in the production of rubber boots and shoes. The capital is \$100,000 and it is planned to begin manufacturing by November 1. The president of the new company is Jacob Kaufman, who retired recently from the same office in The Berlin Rubber Manufacturing Co., Limited, and the manager is T. H. Rieder, who since 1899 has been in the employ of the Berlin company.

#### BAUMANN RUBBER CO. (NEW HAVEN, CONN.)

THIS company have recently made extensive additions to their buildings and mechanical equipment, the new structure have a total length of 100 feet, parts of it being one, two, and three stories high, respectively. The company are producing some good selling novelties in rubber toys and have built up a good trade in air balloons.

#### THE MATTSON COMPANY'S NEW LINES.

THE Mattson Rubber Co. (New York), who for some time past have confined themselves very largely to the manufacture of dress shields and dress shield materials, have added to their line quite extensively, and are now manufacturing all kinds of stamp rubber, particularly sponge backing, and hat manufacturers' supplies in rubber, and a full line of erasive rubbers covering many patented novelties. They are also doing quite a business in general mold work, and in mixing and calendering for the trade.

#### PROVED BELTING.

A HALF century's constant use in thousands of the leading factories of the United States has proved the very great worth of "Royal Worcester" belts. The Graton & Knight Manufacturing Co. are to be congratulated on the splendid reputation that their belting has secured by its honest work all through this long period of time. Manufacturers who are interested in

securing good belting are invited to write for prices and facts about "Royal Worcester," to Worcester, Massachusetts.

#### HOOD RUBBER CO.—INCREASE OF CAPITAL.

AT a meeting of the shareholders in Boston, on May 21, it was voted to increase the capital stock of the company from \$900,000 to \$1,000,000. Subsequently the directors declared a stock dividend of \$11.12 per share, representing part of the profits of the company since the closing of the books November 1, 1902.

#### INTERNATIONAL A. AND V. TIRE CO.

ADELBERT H. ALDEN having retired from the presidency of this company, that position has been filled by the election to that office of Harrison C. Williams, formerly general manager, while J. C. Matlock, lately in charge of sales, has become general manager.

#### NEW YORK STOCK EXCHANGE QUOTATIONS.

##### UNITED States Rubber Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Apr. 25	430	15 5/8	15	540	51	50
Week ending May 2	750	15 1/4	14 1/2	635	50 1/4	50
Week ending May 9	1,965	16 1/4	15 1/4	1,530	52 1/2	50 1/4
Week ending May 16	2,620	17	15 1/2	3,420	54	51 1/2
Week ending May 23	2,630	15 3/4	14 1/5	1,117	52	50

##### RUBBER Goods Manufacturing Co.:

DATES	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Apr. 25	4,950	26 5/8	25	1,080	82	79
Week ending May 2	2,500	26 1/4	25	550	80 1/2	80
Week ending May 9	1,300	26	25 1/4	810	81 1/4	80 1/4
Week ending May 16	2,500	26	24 1/8	625	81	80
Week ending May 23	6,300	25	23 1/2	610	80 1/2	79

#### ATLANTIC RUBBER SHOE CO.

THE Atlantic Rubber Shoe Co., have bought a tract of land in the town of Cranston, which is really part of the city of Providence, Rhode Island. The parcel of land consists of some eight acres, close to the Pawtuxet river, and on the line of the New York, New Haven and Hartford railroad. It is rumored that a large factory will be erected at once. Speaking of rumors, it was also said that Superintendent Maurice C. Clark, of the Joseph Banigan Rubber Co., had tendered his resignation, to take the superintendency of the Atlantic Rubber Shoe Co. Mr. Clark, however, denies the latter, but acknowledges that he did tender his resignation as he desired to withdraw from active business, but that the Banigan company did not see their way clear to release him.

#### ANOTHER ALLING RUBBER STORE.

THE Alling Rubber Co. (New Haven, Connecticut), will increase their paid in capital stock from \$18,000 to \$24,000, for the purpose of opening a rubber store at Meriden, Connecticut, which will be ready for business about June 3. Franklin B. Alling will be the resident manager at Meriden. This will make the sixth store in Connecticut owned and conducted by the Alling interest. Some details regarding the other stores appeared in THE INDIA RUBBER WORLD of April 1 (page 242). The Alling Rubber Co. report: "All our stores report a very heavy garden hose trade. We think this will be the best hose season we have had in Connecticut in ten years."

#### NEW INCORPORATIONS.

THE Williams Rubber Co. (Los Angeles, California), April 22, 1903, under California laws; capital, \$25,000. T. J. Williams, president; W. G. Williams, secretary and treasurer; H.



O. Harrison, sales manager. The secretary advises THE INDIA RUBBER WORLD: "The object of this company is to manufacture and sell rubber goods, especially selling rubber tires and other rubber goods in that line."

=Laurel Rubber Co. (Passaic, N. J.), April 23, 1903, under New Jersey laws, to manufacture rubber goods; capital, \$10,000. Incorporators: Morris Rosenthal and Charles A. Brandt, Passaic, N. J., and Frank A. Cigel, Paterson, N. J.

=Marion Insulated Wire and Rubber Co. (Marion, Indiana), April 30, 1903, under Indiana laws; capital, \$100,000, fully paid in. Officers: J. L. Barley, president; C. A. Michaels, vice president; Hiram Beshore, treasurer; R. E. Lucas, secretary and general manager. Mr. Lucas for the last eight years has been secretary of the Indiana Rubber and Insulated Wire Co., at Jonesboro, and will be the practical man of the new company. A factory site has been located, between the two railways running through Marion and near their freight houses; work has been begun on the factory buildings, the main structure to be 232 × 90 feet, three stories high, standard mill construction. Electric power probably will be used.

=American Rubber Co., May 13, 1903, under New Jersey laws; capital \$100,000. Incorporators: Samuel R. Betts, James J. Cosgrove, K. K. McLaren. Samuel R. Betts is a member of the law firm of Betts, Betts, Sheffield & Betts, No. 120 Broadway, New York, where THE INDIA RUBBER WORLD was informed: "We have no information to give out at present concerning this company." Mr. Cosgrove is a lawyer at the same address. Mr. McLaren is secretary of the Corporation Trust Co., No. 15 Exchange place Jersey City, which is mentioned as the principal office of the company.

=Springfield Tire and Rubber Co. (Springfield, Ohio), April 17, 1903, under West Virginia laws, to manufacture rubber tires, horseshoe pads, mold work, etc.; capital, \$75,000. Incorporators: H. L. Slager, W. H. Smith, Oscar W. Smith, Eugene Garnier, and Oscar Garnier, all of Springfield. Henry A. Middleton is manager.

=Star Rubber Co., May 18, 1903, under New York laws, to manufacture rubber tires; capital, \$50,000. Incorporators: John B. Summerfield, Alfred T. Davison, Henry M. Haviland—all of New York city.

=Seaboard Rubber Co. (New York city), May 6, 1903, under New York laws; capital, \$1000. Directors: Robert H. Ernst and George H. Quenard, New York, and J. H. Baird, Newark, New Jersey.

#### MILWAUKEE RUBBER WORKS CO.—FACTORY COMPLETED.

THE Milwaukee Rubber Works Co. announce the completion of their factory, located at Cudahy, near Milwaukee, Wisconsin. They have broken all records in the prompt erection and completion of a factory of its kind in the industry. The main building is of brick, 200 × 45 feet, two stories, with a projecting wing 185 × 45 feet. The upper floor of the main building will be used for making up of bicycle and automobile tires and sundries. The lower floor will be used for the engine and boilers, and heavy machinery for milling rubber. The wing will be used for vulcanizing and general press work. The plan calls for two more wings of the same dimensions, to be added as soon as material can be secured. The company anticipate a thriving business and already have enough business in sight to fill their day capacity. They will make the solid vehicle tire and pneumatic automobile and bicycle tires their leading business, although they are equipped to make a large line of general mechanical goods, such as hose, packing, valves, mats, hoof pads, and other press work of like nature. Much in their favor are the old and experienced men connected with them. Each department is thoroughly equipped with modern machinery

and only the best skilled workmen are employed. The organization consists of the best business men in Milwaukee and, as the active parties in the company are well experienced, the success of the company is assured.

#### TRADE NEWS NOTES.

THE closing of the factory of the Concord Rubber Co. (Concord Junction, Mass.) has been followed by the departure from that locality of most of the rubber workers, some of whom have entered the Apsley rubber factory, while others have returned to Malden, whence they came to Concord.

=One of the best illustrations of what can be done in the way of window decoration with fine rubber goods may be seen at the new store of the Hodgman Rubber Co., Nos. 806 808 Broadway, New York. The windows are very far from being the ordinary rubber store windows, as there is no crowding—but few goods are shown—the whole exhibit being marked by simplicity and elegance.

=Edward G. Milbury has been appointed permanent receiver of the Edward G. Milbury Co., wholesale dealers in oil clothing and rubber clothing, No. 38 Walker street, New York, in proceedings for voluntary dissolution. He was appointed temporary receiver September 9, 1902, when the liabilities were \$12,064, and the nominal assets \$15,242.

=Jacob Hammer, for eight years past connected with the St. Paul Rubber Co., an important jobbing house of St. Paul, Minnesota, has resigned as secretary and treasurer and retired from the company, on account of ill health. H. M. Hodgman, who founded the business some 26 years ago, and has since remained connected with it, has been elected secretary, and John E. Fowler, who has been with the house for eight years, becomes treasurer. Albert Fischer continues as president. This was the first rubber house opened west of Milwaukee.

=The partnership agreement of William T. Bonner and F. W. Gregory, doing business as the Bonner Manufacturing Co., makers of rubber substitutes, No. 89 State street, Boston, terminated on March 30. The business will be continued under the same name, with W. T. Bonner and Charles S. Wing as co-partners, and with Mr. Bonner as the active business manager.

=Referring to a mention of the Purete Rubber Co. (Menlo Park, N. J.), in the last INDIA RUBBER WORLD, it should be noted that, since its publication, the company state that they will not make golf balls, as was at first intended.

=The Thread City Collar Co. (Willimantic, Connecticut) deny a report that they intend closing. Their principal business is in rubber collars, the trade in which is reported good, but recently linen collars were added, and it is these the production of which is temporarily suspended.

=A dividend of 1 per cent. on the common stock of the American Chicle Co. was payable on May 11, being the customary monthly disbursement.

=On May 4 Alexander MacPherson, who since 1898 had been manager for the Toronto branch of the Canadian Rubber Co. of Montreal, assumed charge of the mechanical goods department of the company at Montreal. Before leaving Toronto, a farewell dinner was tendered him by the Wholesale Shoe Association of that city.

=P. T. Betts, crude rubber broker, has removed his office from No. 38 to No. 43 Murray street, New York.

=The Pequannoc Rubber Co. (Butler, New Jersey) report a constantly increasing business, due to the good reputation which has been built by the enterprising managers for their reclaimed rubber product.

=The incorporation is reported, under California laws, at Oakland, in that state, of the Morck Elastic Tire Co., with \$200,000 capital.

=The Stoughton Rubber Co. (Boston, Massachusetts) have given up their retail store at No. 24 Summer street and have moved to No. 232 Summer street, the heart of the wholesale district, where they have fitted up fine headquarters.

=A gorgeous poster in many colors and full of life and spirit has been brought out by the Peerless Rubber Manufacturing Co. (New York). It represents a "Free For All Handicap" horse race, and a 100 yard dash human race. In fact it is very racy, and beyond that is well worth sending for. The *motif* of the picture, by the way, has to do with rubber packing.

=The machinery, stock, patents, etc., of the Munger Automobile Tire Co. (Trenton, New Jersey) which lately went into the hands of a receiver, have been sold at auction, the whole outfit bringing \$2400. A dealer in second-hand machinery from Philadelphia was the purchaser.

=The factory of the Seamless Rubber Co. (New Haven, Connecticut) has been idle since the middle of May. At that time the general superintendent, James A. Murray, stated that the employes had been laid off because the factory was short of coal, and that coal could not be secured on account of the teamsters' strike.

=The Maynard Shoe Co. (Claremont, New Hampshire), who for some time past have done an extensive business in rubber soled canvas shoes, will put in plant for the extensive manufacture of tennis shoes. It is reported that Joseph W. Elbersen, so long identified with the rubber industry at Setauket, Long Island, will have charge of this department.

=The Kokomo Rubber Co. (Kokomo, Indiana) have not departed from their annual rule of adding to their plant. This year, however, the addition is greater than ever, comprising a large brick building and a duplication of the whole of their rubber machinery, engines, and boilers.

#### CONSOLIDATED RUBBER TIRE CO.

At the annual meeting of the stockholders, at Jersey City, New Jersey, on May 4, the directors were reelected, as follows: Isaac L. Rice, Emerson McMillin, Stephen Peabody, Martin Maloney, Frederick A. Seaman, Van H. Cartmell, and Russell H. Landale. Samuel W. Ehrich, a director elected in 1902, had retired during the year, being succeeded at the time by Mr. Landale, a lawyer of No. 170 Broadway, New York, supposed to represent interests of Talbot J. Taylor & Co. Mr. Cartmell was reelected president and Mr. Seaman secretary and treasurer. No financial statement was made public.

#### PERSONAL MENTION.

COLONEL HARRY E. CONVERSE, of the Boston Rubber Shoe Co. entertained a number of guests at a "housewarming," on the evening of May 8, when his new summer residence, "The Moorings," at Marion, Massachusetts, was thrown open for the first time. Colonel Converse purchased an estate of 65 acres there in 1898, and last year had plans prepared for what proves to be the finest residence on Buzzard's Bay.

=Mr. William W. Small, of Newark, New Jersey, who was in the Acre territory during the whole of the disturbances there which began in August last, returning home only after navigation to the seaboard was reopened, started for Bolivia again on May 6, with a view to perfecting titles to rubber lands in which he is interested, together with some friends in the rubber trade in this country.

=Mr. Max Loewenthal, treasurer of the U. S. Rubber Reclaiming Works (New York), has gone to Europe for a four months' vacation.

=Mr. Joseph F. McLean, president of the Pequannoc Rubber Co. (Butler, New Jersey) was reappointed treasurer of the County of Morris, New Jersey, by a unanimous vote of both

the Democratic and Republican freeholders of that county, at their annual meeting on May 13, and on the same day filed his bond for \$100,000, which was promptly accepted. In politics Mr. McLean is a Republican, but the compliment implied in the unanimous vote given to him shows that his friends are numbered in both parties.

=Mr. William T. Baird, president of the Rubber Trading Co. (New York), accompanied by Mrs. Baird, sailed on May 9 for a two months' absence in Europe, intending to touch first at Gibraltar.

=Mr. Elmer E. Bainbridge, who represents the Lake Shore Rubber Co. (Erie, Pa.), was a recent caller at the New York office of THE INDIA RUBBER WORLD.

=Mr. Charles W. Barnes, who has charge of the American line of rubber footwear at the Boston office of the United States Rubber Co., was married on April 29 to Miss Mary S. Piper, for several years one of the most capable of the stenographic staff of the company. The newly married pair visited Old Point Comfort on their wedding journey.

=Mr. Otto Meyer, of Boston, well known in crude rubber circles, was recently united in marriage to Miss Irma E. Neil, of the same city.

#### A WEDDING IN THE GOODYEAR FAMILY.

ON May 27, at the Church of the Holy Trinity, on Lenox avenue, New York, was celebrated the marriage of Miss Katherine Francis Goodyear, daughter of Professor William Henry Goodyear, to her cousin, Mr. Nelson Goodyear, third and youngest son of the late Charles Goodyear, Jr. Charles Goodyear, the inventor, was survived by two sons, whose names appear above. The elder, Charles, who assisted in the affairs of his father and was the executor of his will, died in 1896. The other son, William Henry, is curator of the museum of fine arts of the Brooklyn Institute and a writer and lecturer of note on architectural topics. Nelson Goodyear, the bridegroom, studied architecture in Paris, and besides at Flushing, New York.

#### OBITUARY.

CHARLES S. SANXAY, second vice president of the New York Rubber Co., died on April 28 at his home in Brooklyn, of heart failure, after three weeks' illness. He was a son of the late Skeffington S. Sanxay, and was born in Brooklyn (New York) on January 16, 1863. He left school early, bent upon a mercantile career, though it was desired by his father that he should follow the latter's profession, that of the law. He entered the office of the New York Rubber Co. at the age of 15, and from that time his whole life and ambition were devoted to the interests of that company, of which he became second vice president in 1901. Mr. Sanxay was a man of genial and sociable disposition, and easily made and retained friends. He was a member of the Brooklyn Club, the Marine and Field Club, and several other organizations. He leaves two daughters and a mother and brother to mourn his early death.

=The funeral of the late Charles A. Hoyt, a director in the American Hard Rubber Co., whose death in California was reported in the last INDIA RUBBER WORLD, took place on May 4, at St. Mary's Cathedral, Burlington, Vermont, which was Mr. Hoyt's native town.

=Henry A. Lozier, formerly president of the Cleveland Bicycle Co., and an important factor in the bicycle trade, up to the time of the merger of his interests in the American Bicycle Co., died in New York on May 25. Mr. Lozier's business calling for a great many tires, he had a special quality made, which he branded the "Cleveland." He was 66 years of age and left a fortune.



## ADDITIONAL NEWS NOTES.

THE Diamond Rubber Co. have removed their headquarters in Chicago to Nos. 167-69 Lake street, where a combined mechanical and tire branch has been established. Their tire repair shop, however, remains as formerly, at No. 431 Wabash avenue.

=The Atlantic Rubber Shoe Co. have moved their New York office from No. 127 Duane street to Nos. 52-24 William street.

=The O'Sullivan Rubber Co. (Lowell, Massachusetts) will distribute 1,000,000 copies of a new "ragtime" song, "Then Say O'Sullivan's," the words of which tell the story of heels which "bring you next to angels' wings."

=A new belt press is being installed at factory of the National India Rubber Co. (Bristol, Rhode Island.)

=The new Kleinfontein mines, South Africa, are to be equipped with an extensive conveyor plant, supplied by the Robins Conveying Belt Co. (New York). The plant will be operated by British electric motors.

=The Republic Development Co. (New York), engaged in developing the plantation of the Obispo Rubber Plantation Co., have removed their offices from No. 52 Broadway to No. 15 William street.

=The Carmin Rubber Co., No. 1857 Notre Dame street, Montreal, are a new company manufacturing water proof garments.

=The Manila end of the Commercial Pacific cable having been successfully landed, the cable ship *Anglia* left that port on May 25 to lay the cable to the island of Guam. It was estimated that the trip would occupy eight days.

## REVIEW OF THE CRUDE RUBBER MARKET.

THE month closes with lower prices on most grades of Pará rubber, a decline in several African sorts, but without change in Centrals. The records kept at Pará indicate a shortage as compared with last year's crop, the showing month by month being given in the table below. The arrivals already, however, are larger than in any full crop year prior to 1901-02:

	1901-02	1901-02	1901-02	This year's Crop.
To July 31 . . . . .	860	1,260	1,290	30 more
To August 31 . . . . .	2,150	2,550	2,660	110 "
To September 30 . . . . .	3,430	4,490	4,330	160 less
To October 31 . . . . .	5,780	7,130	6,610	520 "
To November 30 . . . . .	7,930	10,100	9,260	840 "
To December 31 . . . . .	11,300	13,630	12,250	1,380 "
To January 31 . . . . .	13,740	17,490	14,740	2,750 "
To February 28 . . . . .	17,030	20,870	19,500	1,370 "
To March 31 . . . . .	21,820	24,530	23,540	990 "
To April 30 . . . . .	24,350	26,670	26,020	650 "
To May 31 . . . . .	26,924	28,750	*27,700	*760 "
To June 30 . . . . .	27,610	30,000		

[\* To May 31, 1903.]

New York quotations on May 28 were:

PARÁ.		CENTRALS.	
Islands, fine, new . . . . .	87 @ 88	Esmeralda, sausage . . . . .	68 @ 69
Islands, fine, old . . . . .	@ 91	Guayaquil, strip . . . . .	62 @ 63
Upriver, fine, new . . . . .	@ 91	Nicaragua, scrap . . . . .	.67 @ 68
Upriver, fine, old . . . . .	@ 95	Panama, slab . . . . .	.55 @ 56
Islands, coarse, new . . . . .	@ 57	Mexican, scrap . . . . .	.67 @ 68
Islands, coarse, old . . . . .	@	Mexican, slab . . . . .	.55 @ 56
Upriver, coarse, new . . . . .	.72 @ 73	Mangabeira, sheet . . . . .	.52 @ 53
Upriver, coarse, old . . . . .	@	EAST INDIAN.	
Caucho(Peruvian)sheet 57	@ 58	Assam . . . . .	82 @ 83
Caucho (Peruvian) ball 63	@ 69	Borneo . . . . .	@
AFRICAN.		GUTTA-PERCHA.	
Sierra Leone, 1st quality 82	@ 83	Prime, red . . . . .	@ 2 25
Massai, red . . . . .	@ 83	Prime, white . . . . .	@ 1 50
Benguella . . . . .	@ 70	Lower grades . . . . .	@ 1 25
Cameroon ball . . . . .	@ 61	Reboiled, prime . . . . .	.75 @ .90
Gaboon flake . . . . .	@ 41	Reboiled, inferior . . . . .	.10 @ .25
Gaboon lump . . . . .	@ 43		
Niger paste . . . . .	@ 20	Ba'tata, sheet . . . . .	.63 @ 65
Accra flake . . . . .	@ 21	Balata, block . . . . .	.52 @ 55
Accra buttons . . . . .	@ 59	Pontianak (in quanti	
Accra strips . . . . .	@ 61	ties) . . . . .	@ 3 1/2
Lopori ball, prime . . . . .	@ 83	Almeidina . . . . .	@ 8
Lopori strip, do . . . . .	@ 80	Tuno gum . . . . .	@ 12
Ikelemba . . . . .	@ 82	Chicle . . . . .	@ 42
Madagascar, pinky . . . . .	@ 80		

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine . . . . .	\$5.300	Upriver, fine . . . . .	\$4.100
Islands, coarse . . . . .	2\$5.00	Upriver, coarse . . . . .	4\$7.00

Exchange, 12 1/2 d.

Last Manáos advices:

Upriver, fine . . . . .	6\$000	Upriver, coarse . . . . .	4\$100
Exchange, 12 1/2 d.			

## NEW YORK RUBBER PRICES FOR APRIL (NEW RUBBER).

	1901.	1902.	1903.
Upriver, fine . . . . .	90 @ 93	73 @ 74 1/2	85 @ 94
Upriver, coarse . . . . .	72 @ 74	59 @ 60	59 @ 68
Islands, fine . . . . .	87 @ 91	71 @ 73	54 @ 93
Islands, coarse . . . . .	56 @ 60	47 @ 49	52 @ 60
Camets, coarse . . . . .	61 @ 63	53 @ 53 1/2	54 @ 62

## Statistics of Para Rubber (Excluding Caucho).

		NEW YORK.		Total	Total	Total
		Fine and Medium.	Coarse.	1901.	1902.	1903.
Stocks, March 31 . . . . .	tons	497	42	539	505	920
Arrivals, April . . . . .		1067	427	1494	1483	2141
Aggregating . . . . .		1564	469	2033	1988	3070
Deliveries, April . . . . .		1073	405	1478	1496	2076
Stocks, April 30 . . . . .		491	64	555	492	994

		PARÁ.		ENGLAND.		
		1901.	1902.	1901.	1902.	1903.
Stocks, March 31 . . . . .	tons	255	560	485	1550	1825
Arrivals, April . . . . .		2510	2655	1980	1087	2145
Aggregating . . . . .		2765	3215	2465	2637	3970
Deliveries, April . . . . .		2615	975	2295	962	3500
Stocks, April 30 . . . . .		150	2240	170	1675	170

World's supply, April 30 . . . . .	tons	3691	4196	3885
Pará receipts, July 1 to April 30 . . . . .		23,756	23,599	21,746
Pará receipts of Caucho, same dates . . . . .		3104	2736	1604
Afloat from Pará to United States, April 30 . . . . .		731	674	861
Afloat from Pará to Europe, April 30 . . . . .		580	620	435

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 58 William street, New York), advises us:

"Although during May call rates for money have been quite easy, there has been only a very moderate demand for paper and rates have held firm, being 5 1/4 @ 6 per cent. for the general run of rubber paper."

## Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for carload lots—are slightly lower, as follows:

Old Rubber Boots and Shoes . . . . .	Domestic . . . . .	7 1/8 @ 7 1/4
Do . . . . .	Foreign . . . . .	6 1/8 @ 6 1/4
Pneumatic Bicycle Tires . . . . .		5 @ 5 1/4
Solid Rubber Wagon and Carriage Tires . . . . .		6 1/2
White Trimmed Rubber . . . . .		9 1/4 @ 9 1/2
Heavy Black Rubber . . . . .		4 1/4
Air Brake Hose . . . . .		2 7/8 @ 3
Fire and Large Hose . . . . .		2 1/2
Garden Hose . . . . .		1 1/2
Matting . . . . .		1

*Antwerp.*

AT the inscription on May 26 the offerings comprised about 477 tons, the most of which was sold at slight advances over estimations. The principal offerings, with broker's valuations, were:

13 tons	Lake Leopold II.....	francs	9.50
20 "	Upper Congo—Uele.....		9.20
22 "	Upper Congo—Aruwimi.....		8.50
20 "	Upper Congo—ordinary.....		9.25
23 "	Upper Congo—Mongalla.....		9.
11 "	Kassai red.....		9.25
16 "	Kassai black.....		9.40
13 "	Upper Congo—Lopori I.....		9.65
10 "	Upper Congo—Lopori II.....		8.50
20 "	Lake Leopold II.....		8.50
25 "	Upper Congo Aruwimi.....		8.75

## ANTWERP RUBBER STATISTICS FOR APRIL.

DETAILS.	1902.	1901.	1900.	1899.
Stocks, Mar. 31. <i>kilos</i>	271,884	841,678	843,834	735,060
Arrivals in April....	605,743	307,834	613,368	507,911
Congo sorts.....	417,517	207,794	517,571	417,311
Other sorts.....	188,226	100,040	91,797	90,600
Aggregating....	877,627	1,149,512	1,457,202	1,242,971
Sales in April.....	388,828	648,848	643,384	421,151
Stocks, Apr. 30....	488,799	500,664	813,818	821,820
Arrivals since Jan 1.	1,751,871	1,809,324	2,186,678	2,284,225
Congo sorts.....	1,177,517	1,097,429	1,917,796	1,899,270
Other sorts.....	574,354	711,895	268,882	384,955
Sales since Jan. 1....	1,921,177	1,723,368	1,986,899	1,754,396

## RUBBER ARRIVALS AT ANTWERP.

APRIL 23.—By the *Albertville*, from the Congo:

Bunge & Co.....(Société Générale Africaine) <i>kilos</i>	187,000
Do.....(Société Anversoise)	8,200
Do.....(Société Isangi)	4,300
Do.....(Comite Spécial Katanga)	1,600
Do.....(Chemins de fer des Grand Lacs)	9,300
Do.....(Cie. du Kasai)	39,300
Do.....	500
Do.....(Sultanats du Haut Ubangi)	5,500
Société A B I R.....	28,900
Comptoir Commercial Congolais.....	11,300
Société Coloniale Anversoise.....(Cie. de Lomami)	2,000
Do.....	500
Evrard Havenith.....(Société Andrea)	1,400

MAY 14.—By the *Anversville*, from the Congo:

Bunge & Co.....(Société Générale Africaine) <i>kilos</i>	96,800
Do.....(Société Anversoise)	66,800
Do.....(Cie. du Kasai)	36,400
Société A B I R.....	115,600
M. S. Cols.....(Société L'Ikelemba)	900
Charles Dethier.....(Société Belgika)	1,700
Comptoir des Produits Coloniaux.(Cie. de la N'Goko)	3,300
Do.....(Cie. des Produits de la Sangha)	1,200
Société Coloniale Anversoise.(Belge du Haut Congo)	29,500
Do.....(Cie. de Lomami)	25,700
Do.....(Sud Kamerun)	4,800

*Rubber Receipts at Manaos.*

DURING April and for the first ten months of the crop season [by courtesy of Messrs. Witt & Co.]:

FROM—	APRIL.			TOTAL YEAR.		
	1902.	1901.	1900.	1902.	1901.	1900.
Rio Purus..... <i>tons</i>	452	399	364	5492	6313	5640
Rio Madeira.....	86	115	145	2100	2704	2487
Rio Juruá.....	238	257	91	3393	3454	2821
Rio Javary—Iquitos....	58	3	78	1473	1243	1231
Rio Solimões.....	37	58	40	1305	1508	1122
Rio Negro.....	96	39	73	635	356	470
Total.....	967	871	791	14458	15535	13771
Caucho.....	619	394	520	2755	2757	2876
Total.....	1586	1265	1311	17213	18322	16647

*Manaos Rubber Statistics.*

THE following statistics of the arrivals of rubber at Manãos from all sources, during the calendar year 1902, are supplied by the Associação Commercial do Amazonas—all in kilograms:

FROM	Fine.	Medium.	Coarse.	Cauchó.	Total.
Amazonas state	9,540,744	1,370	1,820,688	2,185,173	13,597,975
Mattogrosso....	127,462	...	15,097	...	142,559
Venezuela....	48,254	...	19,240	...	67,494
Peru.....	162,451	210	27,781	21,704	211,732
Bolivia....	2,461,667	...	346,470	42,120	2,849,657
Total entries	12,339,975	1,586	2,225,577	2,252,097	17,818,635

## SOURCE OF THE FINE RUBBER IN AMANAS.

	Fine.	Medium.	Coarse.	Cauchó.	Total.
Rio Purus.....	3,591,586	...	576,206	744,411	4,962,403
Rio Juruá....	2,420,828	924	441,125	1,179,118	4,041,995
Rio Madeira....	1,558,417	4	263,855	155,719	1,977,995
Rio Solimões....	761,912	20	179,107	10,742	951,781
Rio Javary....	636,976	207	123,582	28,383	790,148
Rio Negro....	324,135	215	100,208	...	426,558
Rio Jutahy....	103,089	...	24,252	6,398	133,739
Rio Içá.....	64,967	...	15,017	3,862	83,846
Rio Japurá....	64,322	...	8,534	3,076	75,932
Baixo Amazon's	54,253	...	86,160	22	140,435
Rio Branco....	8,260	...	2,637	3,240	14,137

Total.....9,599,744 1,370 1,820,688 2,185,173 13,597,975

It will be noted how small is the proportion of medium (*entrefine*) rubber in the arrivals. The proportion becomes much larger, however, after the classification at Manãos, as will appear from the following details of rubber exports from Manãos during the year:

## RUBBER PRODUCED IN AMANAS.

To—	Fine.	Medium.	Coarse.	Cauchó.	Total.
New York....	3,626,178	952,309	951,271	1,020,944	6,550,702
Liverpool....	3,104,827	699,146	582,573	976,501	5,363,047
Havre.....	359,566	157,533	122,835	231,608	871,542
Pará.....	303,649	...	49,062	5,417	358,128
Hamburg....	64,556	11,484	16,700	650	93,490
Genoa.....	21,403	3,060	1,454	...	25,917

Total exp'ts. 7,480,179 1,823,532 1,723,955 2,235,150 = 13,262,816

## TOTAL EXPORTS, INCLUDING TRANSIT.

To—	Fine.	Medium.	Coarse.	Cauchó.	Total.
New York....	3,783,973	686,266	1,011,575	1,049,712	6,831,526
Liverpool....	3,259,192	722,148	624,431	978,752	5,584,523
Havre.....	413,526	183,089	129,084	231,608	957,307
Pará.....	2,383,171	182	331,180	37,809	2,752,342
Hamburg....	77,745	13,266	18,476	650	110,137
Genoa.....	21,403	3,060	1,454	...	25,917

Total.....9,939,010 1,907,981 2,116,200 2,298,561 = 16,261,752

\* Largely rubber from Brazil, consigned to Pará.

These figures do not embrace rubber shipped direct from Iquitos, from which source 1,410,961 kilograms passed Pará during the calendar year 1902. Nor do they include certain shipments of rubber produced in the state of Amazonas below Manãos, and going to Pará or direct to Europe, the whole amounting to 44,523 kilograms.

Statistics are not available of the exports of rubber from Pará, exclusive of what was received from up the river, but a combined statement for Pará and Manãos makes this showing:

Pará and Manãos stocks, December 31, 1901.....	1,311,000
Combined receipts.....	28,328,780

Aggregating.....	27,441,770
Combined exports.....	28,549,780

Stocks December 31, 1902.....1,042,000

If there be subtracted from these exports the total figures for the movement through Manãos, including the direct shipments from Iquitos, and the small amounts from Amazonas ports below Manãos, there remains 10,832,542½ kilograms to be regarded as the produce of the state of Pará.



## London.

EDWARD TILL &amp; Co., report stocks May 1:

	1903.	1902.	1901.
LONDON { Para sorts..... tons —			
{ Borneo..... 13	126	172	
{ Assam and Rangoon..... 4	35	38	
{ Other sorts..... 192	458	631	
Total.....	209	619	841
LIVERPOOL { Para..... 1681	2245	1440	
{ Other sorts..... 649	924	1316	
Total, United Kingdom.....	3788	3597	
Total, April 1.....	2525	3326	3522
Total, March 1.....	1931	3078	2989
Total, February 1.....	1921	2674	3129
Total January 1.....	1582	2794	2901

## PRICES PAID IN APRIL.

	1903.	1902.	1901.
Para fine, hard..... 3/ 9 1/2 @ 3/10 1/4	3/- @ 3/11 1/2	3/7 @ 3/11	
Do soft..... 3/ 10 @ 3/10 1/4	3/0 1/2 @ 3/11 1/2		
Negroheads, scrappy..... 3/ 0 1/2 @ 3/ 1 1/2	2/6 @ 2/6 3/4	2/6 1/4 @ 2/ 9	
Do Islands..... 2/ 4 1/2 @ 2/ 5 1/2	2/-	2/1 @ 2/ 3 1/2	
Bolivian..... No sales.	3/2	No sales.	

S. FIGGIS & Co. report [May 15] a quieter market, with more sellers than buyers. Fine Para hard spot 3s. 10 3/4 d.; forward 1/2 d. more. Ten tons year old hard fine sold 4s. 3/4 d.; 10 tons eighteen months old soft fine sold 4s. 1/4 d. Negroheads quiet; small sales scrappy at 3s. 13 1/4 d. Islands scarce. Cameta sold at 2s. 8 d. Peruvian easier, sellers ball 3s. 1 1/4 d., slab 2s. 5 1/4 d. At to days auction, active competition at good prices. Columbian clean white sheet and slab a little soft, 3s. 1/4 d. @ 3s. 1/2 d.; rough scrap and sheet part heated, 2s. 8 1/4 d. @ 2s. 10 1/4 d. Central American in good demand; good clean scrap 3s. 13 1/4 d.; good clean pressed scrap, 2s. 7 1/2 d. Madagascar much wanted; dark coated, rather dirty, part soft, 2s. 4 1/4 d.; niggers, fair rather sandy, 2s. 4 d. @ 2s. 4 1/2 d. Mozambique reddish ball, 3s. 5 1/2 d. Uganda gummy ball, 2s. 5 d. Nyassaland: 740 bags sold; fair to good reddish ball, 3s. 2 d. @ 3s. 4 1/2 d. ditto softish and heated, 3s. 4 1/2 d.; reddish ball, a little mixed, 3s. 2 d. @ 3s. 4 1/2 d. Soudan sausage, 3s. 2 d.

Ceylon Rubber.—Sales May 1 auction, 10 packages: Fine thin biscuits, 4s. 3 d.; pale scrap, 3s. 6 d. Sales May 15 auction, 8 packages: Fine thin biscuits, 4s. 2 1/2 d. @ 4s. 3 1/2 d.; good reddish scrappy ball 3s. 3 1/4 d.

## Liverpool.

EDMUND SCHLÜTER &amp; Co. report Liverpool stocks:

	May 1.	Apr. 30.		May 1.	Apr. 30.
Para—1st hands..... 903 1041 tons.			Peruvians.....	294 249 tons.	
Fine..... 88 842 "			Africans.....	387 351 "	
Medium..... 107 108 "			Mollendo.....	79 70 pks.	
Negroheads..... 108 82 "			Mangabeira.....	3 8 "	
Para—2d hands..... 645 640 "			Pernambuco.....	40 85 "	
Fine..... 57 57 "			Manikoba.....	148 222 "	
Medium..... 57 57 "			Ceara.....	215 97 "	
Negroheads..... 50 50 "			Assore.....	60 55 "	
Total Para..... 1548 1681 "					

THE hearing in the matter of Kramrisch & Co., India-rubber merchants, before the Liverpool court of bankruptcy, referred to in the last INDIA RUBBER WORLD, was continued subsequently on April 28 and May 6, and again adjourned to May 28. The proceedings thus far have made public very little information regarding the state of the accounts of the bankrupt firm. On May 5 Solomon Kramrisch was placed under arrest on a charge of converting to his own use certain rubber belonging to Kleinwort & Co., bankers, and admitted to bail in the sum of £2000.

—The failure of Kramrisch & Co. has involved in litigation several of their customers. The Dunlop Rubber Co. bought rubber from the firm, advances upon which had been made by Brandt & Co., bankers, with the understanding that payment for the rubber when sold should be made to the latter. Through an oversight, the Dunlop company made a deposit to cover the rubber with Messrs. Kramrisch's regular bankers, Kleinwort & Co., and supposed the matter settled. After the failure of the Kramrisch firm, Brandt & Co. brought suit against the Dunlop Rubber Co. for £3263 14s. and recovered. The Continental Caoutchouc- und Guttapercha-Compagnie bought rubber from Kramrisch, for which they paid the latter's bankers (Kleinwort & Co.), including £1480 more than the debt, through an error. The bankers placed the whole amount to Kramrisch's credit, whereupon the Continental company brought suit against them for the £1480, resulting in a judgment for the plaintiff. F. Reddaway & Co., Limited, were proceeded against by the bankers Kleinwort, in a matter complicated by the failure of Kramrisch, from whom they had bought rubber, a judgment being given to the plaintiffs for £731.

## Value of Congo Free State Rubber Exports.

	1896.	1897.	1898.	1899.
State Product.....	£634,040	£1,124,036	£1,594,960	£1,758,638
Total.....	673,850	1,158,940	1,642,586	1,807,327

## IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

May 4.—By the steamer *Horatio*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Cauch.	Total
Poel & Arnold.....	165,800	53,900	56,700	26,900=	303,300
New York Commercial Co.....	69,300	9,300	72,600	....=	151,200
A. T. Morse & Co.....	31,400	16,800	51,400	27,600=	127,200
United States Rubber Co.....	25,500	5,000	51,900	....=	81,400
Lawrence Johnson & Co.....	22,900	3,900	5,300	....=	32,100
William Wright & Co.....	6,400	2,400	18,000	....=	26,800
L. Hageners & Co.....	5,600	....	2,800	....=	8,400
Edmund Reeks & Co.....	2,100	600	1,000	2,000=	5,700
Hagemeyer & Brunn.....	1,700	300	3,400	....=	5,400

Total..... 330,700 92,200 262,100 56,500= 741,500

May 13.—By the steamer *Maranhense*, from Manáos and Pará:

Poel & Arnold.....	130,200	49 100	77,300	87,200=	343 800
A. T. Morse & Co.....	119,100	19,900	63 600	51,100=	233,700
New York Commercial Co.....	141,400	34,700	45 900	6,700=	228,700
United States Rubber Co.....	36,600	6,600	54,600	....=	97,800
Lawrence Johnson & Co.....	22,500	2,500	7,000	....=	32,000
Edmund Reeks & Co.....	....	....	17,600	....=	17,600
William Wright & Co.....	....	....	16,600	....=	16,600
G. Amsinck & Co.....	....	....	5,800	9,600=	15,400
L. Hageners & Co.....	6,400	....	2,400	....=	8,800

Total..... 456,200 112,800 273,200 202 200= 1,044,400

May 22.—By the steamer *Sabalen*, from Manáos and Pará:

Poel & Arnold.....	93,200	33,200	47,900	35 900=	215,200
A. T. Morse & Co.....	45,600	14,400	83,100	35,900=	179,000
United States Rubber Co.....	55,800	7,700	56,500	42 600=	162,600
New York Commercial Co.....	40,000	9,500	36,900	11,600=	104 000
William Wright & Co.....	8,500	1,400	14,500	....=	24,400
L. Hageners & Co.....	6,400	....	3,000	....=	9,400
Edmund Reeks & Co.....	....	....	....	2,700=	2,700

Total... 260,500 66,200 241,900 128,700= 697,300

NOTE.—The *Amara* is due at New York on June 1 with 20 tons of Rubber and 25 tons Cauchou.

## PARA RUBBER VIA EUROPE.

PARA RUBBER VIA EUROPE.		MAY 1.—By the <i>Yucatan</i> —Mollendo:		MAY 7.—By the <i>Toutoune</i> —Liverpool:	
	BOARDS	Chicago Bolivian Rubber Co. (Fine).....	12,000	George A. Alden & Co. (Cauchou).....	5,400
		Chicago Bolivian Rubber Co. (Coarse).....	1,000 13,000		
MAY 2.—By the <i>Campanita</i> —Liverpool:		MAY 4.—By the <i>Umbria</i> —Liverpool:		MAY 9.—By the <i>Sylmar</i> —Liverpool:	
Poel & Arnold (Fine).....	10,000	Poel & Arnold (Cauchou).....	45,000	Poel & Arnold (Fine).....	11,000
George A. Alden & Co. (Fine).....	4,000	George A. Alden & Co. (Fine).....	3,000 48,000		
Wm. A. Woot & Co. (Fine).....	11,600			MAY 15.—By the <i>Germanie</i> —Liverpool:	41,000
A. J. Mass & Co. (Cauchou).....	20,000 47,000			MAY 1.—By the <i>Maple</i> —Liverpool:	
		MAY 4.—By the <i>St. Andrew</i> —Antwerp:		George A. Alden & Co. (Fine).....	68,000
		Otto Meyer (Fine).....	31,000		
		Otto Meyer (Coarse).....	2,000	MAY 23.—By the <i>Companie</i> —Liverpool:	
		Poel & Arnold (Fine).....	12,500 45,500	George A. Alden & Co. (Fine).....	23,000

## OTHER ARRIVALS AT NEW YORK

## CENTRALS.

	POUNDS.	
<b>APRIL 24.—By the <i>Maestee</i>=Liverpool:</b>		
George A. Alden & Co.	18,000	
Robinson & Tallman	7,000	25,000
<b>APRIL 27.—By the <i>Monte u</i>=Mexico:</b>		
E. Steiger & Co.	2,500	
Thebaud Brothers	1,500	
American Trading Co.	1,000	
E. N. Tibbals & Co.	200	5,200
<b>APRIL 27.—By the <i>Tintoretto</i>=Bahia:</b>		
J. H. Rossbach & Bros.	17,000	
Booth & Co.	3,000	20,000
<b>APRIL 27.—By the <i>Altat</i>=Savannah:</b>		
Roldan & Van Sickle	2,000	
J. Ferro	2,000	
United Fruit Co.	1,500	
Lawrence Johnson & Co.	500	
A. D. Straus & Co.	100	6,100
<b>MAY 1.—By the <i>El Du</i>=New Orleans:</b>		
Manhattan Rubber Mfg. Co.	1,500	
A. T. Morse & Co.	1,500	
M. A. de Leon	200	3,200
<b>MAY 4.—By the <i>Umbria</i>=Liverpool:</b>		
Robinson & Tallman	4,500	
<b>MAY 1.—By the <i>Yucatan</i>=Colon:</b>		
Hirzel, Feltman & Co.	9,300	
Roldan & Van Sickle	8,300	
Dumarest & Co.	7,000	
G. Amsinck & Co.	5,700	
A. Santos & Co.	3,200	
Lawrence Johnson & Co.	2,000	
Fidanque Bros. & Co.	2,000	
Piza, Nephews & Co.	1,800	
A. M. Capen Sons	1,100	
E. Scheidt & Co.	500	
Joseph Hecht	500	
Ascensio & Cossio	500	
Jimenez & Escobar	500	
Lauman & Kemp	300	
Isaac Brandon & Bros.	200	
W. R. Grace & Co.	200	47,600
<b>MAY 1.—By the <i>New York</i>=London:</b>		
George A. Alden & Co.	13,500	
Poel & Arnold	8,500	22,000
<b>MAY 7.—By the <i>Graf Waldersee</i>=Hamburg:</b>		
Robinson & Tallman	44,500	
<b>MAY 7.—By the <i>Heracles</i>=Bahia:</b>		
J. H. Rossbach & Bros.	15,500	
Booth & Co.	1,500	20,000
<b>MAY 4.—By the <i>Havana</i>=Mexico:</b>		
Graham Hinkley & Co.	2,000	
H. Marquardt & Co.	2,000	
Harburger & Stack	2,000	
Thebaud Bros.	800	
L. N. Chemedin & Co.	1,500	
W. Loaliza & Co.	1,000	
E. N. Tibbals & Co.	500	
E. Steiger & Co.	200	
For Hamburg	3,000	13,000
<b>MAY 7.—By the <i>Alone</i>=Greytown:</b>		
G. Amsinck & Co.	1,500	
E. B. Strout	1,500	
Lawrence Johnson & Co.	700	
J. A. Paul & Co.	300	4,000
<b>MAY 8.—By the <i>Albaner</i>=Colon:</b>		
Hirzel, Feltman & Co.	9,600	
A. Santos & Co.	2,800	
Isaac Brandon & Bros.	4,600	
American Trading Co.	3,100	
L. Johnson & Co.	1,800	
G. Amsinck & Co.	1,500	
Fidanque Bros. & Co.	1,400	
Eggers & Heinlein	700	
Meeke & Co.	900	
Dumarest & Co.	600	27,000
<b>MAY 11.—By the <i>Protos</i>=New Orleans:</b>		
A. T. Morse & Co.	8,800	
Eggers & Heinlein	2,500	
G. Amsinck & Co.	1,000	
T. N. Morgan	800	13,100
<b>MAY 12.—By the <i>Esperanza</i>=Mexico:</b>		
Graham Hinkley & Co.	5,000	
Thebaud Bros.	3,000	
Harburger & Stack	2,000	
H. Marquardt & Co.	1,500	
L. N. Chemedin & Co.	1,000	
E. N. Tibbals & Co.	200	
E. Steiger & Co.	300	13,000
<b>MAY 13.—By the <i>Adirondack</i>=Savannah:</b>		
G. Amsinck & Co.	2,200	
Jimenez & Escobar	1,400	
Lawrence Johnson & Co.	1,000	
Kunhardt & Co.	400	
Roldan & Van Sickle	300	
J. H. Rossbach & Bros.	100	5,400

## CENTRALS—Continued.

<b>MAY 14.—By the <i>El Monte</i>=New Orleans:</b>		
Manhattan Rubber Mfg. Co.	9,000	
A. T. Morse & Co.	8,500	17,500
<b>MAY 15.—By the <i>Sequencia</i>=Colon:</b>		
Lawrence Johnson & Co.	7,000	
G. Amsinck & Co.	3,000	
H. Marquardt & Co.	2,000	
E. B. Strout	1,500	
American Trading Co.	1,300	
Everett, Heaney & Co.	500	
R. G. Barthold	400	
Fidanque Bros. & Co.	300	
Jimenez & Escobar	300	
Marcus, Mason & Co.	300	
Silva Russenius & Co.	200	
Meyer & Hecht	100	17,100
Earle Brothers	100	
<b>MAY 20.—By the <i>Tennison</i>=Bahia:</b>		
J. H. Rossbach & Bros.	25,000	
Booth & Co.	1,000	
Eggers & Heinlein	2,000	42,000
<b>MAY 19.—By the <i>Valencia</i>=Cartagena:</b>		
Kunhardt & Co.	4,500	
American Trading Co.	1,500	
E. B. Strout	600	
Andreas & Co.	500	
Lawrence Johnson & Co.	500	
G. Amsinck & Co.	500	
D. A. De Lima & Co.	200	8,200
<b>MAY 22.—By the <i>Saratoga</i>=Colon:</b>		
Roldan & Van Sickle	9,800	
Meeke & Co.	3,400	
Isaac Brandon & Bros.	2,200	
A. Santos & Co.	1,700	
Livingston & Co.	1,700	
E. B. Strout	1,100	
G. Amsinck & Co.	1,000	
American Trading Co.	1,000	
Eggers & Heinlein	800	
Fidanque Bros. & Co.	800	
Hirzel, Feltman & Co.	400	
Kunhardt & Co.	200	
Harburger & Stack	100	24,300
<b>MAY 23.—By the <i>Manurey</i>=Mexico:</b>		
American Trading Co.	1,100	
L. N. Chemedin & Co.	700	
Samuels & Cummings	700	
Graham Hinkley & Co.	500	
E. Steiger & Co.	500	
G. Amsinck & Co.	200	
For Hamburg	5,000	8,700

## AFRICANS.

	POUNDS.	
<b>APRIL 24.—By the <i>Celtic</i>=Liverpool:</b>		
A. T. Morse & Co.	48,000	
United States Rubber Co.	27,000	
George A. Alden & Co.	4,500	79,500
<b>APRIL 25.—By the <i>Campana</i>=Liverpool:</b>		
Poel & Arnold	51,000	
United States Rubber Co.	15,000	
Earle Brothers	4,500	70,500
<b>APRIL 25.—By the <i>Batavia</i>=Hamburg:</b>		
Poel & Arnold	30,000	
A. T. Morse & Co.	22,000	
George A. Alden & Co.	20,000	
William Wright & Co.	8,000	
Otto Meyer	11,500	92,000
<b>APRIL 28.—By the <i>Boric</i>=Liverpool:</b>		
Poel & Arnold	56,000	
George A. Alden & Co.	22,500	78,500
<b>APRIL 28.—By the <i>Vedertand</i>=Antwerp:</b>		
George A. Alden & Co.	10,000	
A. T. Morse & Co.	4,500	
Poel & Arnold	4,500	19,000
<b>APRIL 29.—By the <i>Konig Albert</i>=Genoa:</b>		
Through Shipment	2,500	
<b>APRIL 30.—By the <i>Oceanic</i>=Liverpool:</b>		
George A. Alden & Co.	35,000	
Poel & Arnold	34,000	
Otto Meyer	23,000	
A. T. Morse & Co.	9,000	101,000
<b>MAY 4.—By the <i>La Aquilane</i>=Havre:</b>		
George A. Alden & Co.	11,500	
<b>MAY 4.—By the <i>Umbria</i>=Liverpool:</b>		
Poel & Arnold	27,000	
George A. Alden & Co.	37,000	
A. T. Morse & Co.	2,000	
Earle Brothers	4,500	93,500
<b>MAY 6.—By the <i>Menemee</i>=London:</b>		
Poel & Arnold	12,000	
Robinson & Tallman	4,500	16,500
<b>MAY 6.—By the <i>Kronland</i>=Antwerp:</b>		
Poel & Arnold	10,000	
William Wright & Co.	5,000	15,000

## AFRICANS—Continued.

<b>MAY 7.—By the <i>Tedone</i>=Liverpool:</b>		
George A. Alden & Co.	12,000	
United States Rubber Co.	10,000	
H. A. Gould Co.	11,000	43,000
<b>MAY 9.—By the <i>Syrtania</i>=Liverpool:</b>		
Poel & Arnold	14,000	
George A. Alden & Co.	2,000	16,000
<b>MAY 11.—By the <i>Patris</i>=Lisbon:</b>		
United States Rubber Co.	45,000	
A. T. Morse & Co.	22,000	67,000
<b>MAY 11.—By the <i>Norma</i>=Liverpool:</b>		
Otto Meyer	14,000	
Poel & Arnold	22,000	
William Wright & Co.	11,000	
George A. Alden & Co.	4,500	
Rubber Trading Co.	11,500	63,000
<b>MAY 12.—By the <i>Zeeland</i>=Antwerp:</b>		
Poel & Arnold	34,000	
A. T. Morse & Co.	26,000	
Joseph Cantor	4,500	64,500
<b>MAY 12.—By the <i>Potsdam</i>=Rotterdam:</b>		
A. T. Morse & Co.	22,000	
Poel & Arnold	25,000	
Joseph Cantor	3,500	50,500
<b>MAY 15.—By the <i>Germania</i>=Liverpool:</b>		
George A. Alden & Co.	42,000	
A. T. Morse & Co.	33,000	
United States Rubber Co.	33,500	
Poel & Arnold	5,500	114,000
<b>MAY 18.—By the <i>Etna</i>=Liverpool:</b>		
George A. Alden & Co.	45,000	
Poel & Arnold	23,000	
Otto Meyer	3,000	
Rubber Trading Co.	8,000	
A. T. Morse & Co.	11,000	90,000
<b>MAY 18.—By the <i>Augusta Victoria</i>=Hamburg:</b>		
A. T. Morse & Co.	34,000	
Poel & Arnold	20,000	
Otto Meyer	30,000	
William Wright & Co.	5,500	129,500
<b>MAY 21.—By the <i>Aurora</i>=Liverpool:</b>		
Poel & Arnold	70,000	
<b>MAY 21.—By the <i>Majest</i>=Liverpool:</b>		
George A. Alden & Co.	70,000	
Poel & Arnold	4,500	
Joseph Cantor	2,000	76,500
<b>MAY 21.—By the <i>Pennsylvania</i>=Hamburg:</b>		
George A. Alden & Co.	60,000	
Otto Meyer	40,000	100,000
<b>EAST INDIAN.</b>		
	POUNDS.	
<b>APRIL 27.—By the <i>St. Paul</i>=London:</b>		
Poel & Arnold	10,000	
<b>MAY 11.—By the <i>Indradeo</i>=Singapore:</b>		
William Wright & Co.	11,500	
<b>PONTIANAK.</b>		
<b>MAY 11.—By the <i>Shrinosa</i>=Singapore:</b>		
William Wright & Co.	300,000	
Poel & Arnold	1,000	
Robert Branss & Co.	100,000	
George A. Alden & Co.	110,000	630,000
<b>MAY 11.—By the <i>Indradeo</i>=Singapore:</b>		
William Wright & Co.	400,000	
Robert Branss & Co.	11,000	515,000
<b>GUTTA—PERCHA AND BALATA.</b>		
	POUNDS.	
<b>APRIL 25.—By the <i>Batavia</i>=Hamburg:</b>		
To order	7,000	
<b>MAY 7.—By the <i>Graf Waldersee</i>=Hamburg:</b>		
To order	12,000	
<b>MAY 11.—By the <i>Shrinosa</i>=Singapore:</b>		
Robert Branss & Co.	23,000	
<b>MAY 11.—By the <i>Indradeo</i>=Singapore:</b>		
To order	11,500	
<b>MAY 15.—By the <i>Pennsylvania</i>=Hamburg:</b>		
To order	6,500	
<b>BALATA.</b>		
<b>MAY 2.—By the <i>Grandas</i>=Trinidad:</b>		
For Europe	1,000	
Cardenas & Co.	2,000	
<b>MAY 7.—By the <i>Graf Waldersee</i>=Hamburg:</b>		
To order	2,500	
<b>MAY 13.—By the <i>Moranchense</i>=Paris:</b>		
New York Commercial Co.	2,000	



## CUSTOM HOUSE STATISTICS.

## BOSTON ARRIVALS.

NEW YORK. APRIL.			APRIL 1. By the Michigan=Liverpool:			APRIL 21.—By the Sagamore=Liverpool:			APRIL 23.—By the Cestrum=Liverpool:			APRIL 28.—By the Pinmore=Antwerp:			Total Imports		
					POUNDS												
India rubber	6,14,798	\$5,781,024	George A. Alden & Co.—African			12,125	George A. Alden & Co.—African			15,090	Poel & Arnold—African			19,973	George A. Alden & Co.—African		
Gutta-percha	16,125	4,007	APRIL 3.—By the B. Infirmary=Liverpool:			4,030	APRIL 4.—By the Saronia=Liverpool:			25,084	APRIL 6.—By the Saronia=Liverpool:			3,531	APRIL 10.—By the Philadelphia=London:		
Gutta-percha Pontianak	9,134	24,134	George A. Alden & Co.—African			14,253	George A. Alden & Co.—East Indian				[Value, \$77, 1/2]						
Total	7,31,170	\$5,847,860															
Exports:																	
India rubber	35,814	\$ 1,611															
Reclaimed rubber	8,437	1,574															
Rubber Scrap Imported	1,941,433	\$10,033															

## APRIL EXPORTS OF INDIA-RUBBER FROM PARA (IN KILOGRAMS).

1000 KILOGRAMS=2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Emok, Schrader & Co.	84,577	16,207	47,728	5,630	154,142	120,051	8,570	35,167	35,534	199,322	353,464
Frank da Costa & Co.	45,560	7,835	130,449	8,057	200,904	66,566	8,416	17,680	4,500	97,162	298,066
Adelbert H. Alden	46,850	13,080	51,510	—	111,440	18,730	1,550	4,653	3,674	28,657	140,097
Kanthack & Co.	5,705	2,232	4,904	—	12,841	3,904	202	6,933	—	11,039	23,880
Neale & Staats	—	—	7,552	—	7,552	—	64	660	—	724	8,276
Denis Crouan & Co.	490	—	2,578	—	3,074	—	—	—	—	—	3,074
Pires, Teixeira & Co.	8,729	—	4,274	—	13,003	3,039	—	1,255	—	4,294	17,297
Sundry small shippers	—	—	—	—	—	6,478	124	7,116	2,348	16,066	16,066
Direct from Iquitos	—	—	—	—	—	18,282	4,039	15,109	88,861	126,291	126,291
Direct from Manãos	345,147	106,756	151,816	192,544	796,263	425,340	41,584	124,123	238,591	829,638	1,625,901
Total for April	537,064	146,112	400,811	206,231	1,290,219	662,440	64,549	212,696	373,508	1,313,193	2,612,412
Total for January-March	2,539,418	793,870	1,738,268	453,623	5,735,179	3,251,190	413,177	806,893	1,200,280	5,671,540	11,406,719
Total, July-December	2,724,574	649,906	2,172,215	78,623	5,625,318	4,011,602	609,423	1,113,862	500,474	6,235,361	11,860,679
TOTAL, CROP YEAR	6,101,056	1,499,889	4,320,294	738,477	12,659,716	7,925,232	1,087,149	2,133,451	2,074,262	13,220,094	25,879,810

## OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1903	5,470,028	357,570	5,112,458	March, 1903	6,046,208	3,121,104	2,925,104
January-February	10,727,780	511,395	10,216,385	January-February	9,644,096	6,760,544	2,883,552
Three months, 1903	16,197,808	868,965	15,328,843	Three months, 1903	15,690,304	9,881,648	5,808,656
Three months, 1902	14,505,944	940,675	13,565,269	Three months, 1902	13,880,608	7,175,616	6,704,992
Three months, 1901	15,886,510	850,607	15,035,903	Three months, 1901	14,823,872	4,727,632	10,096,240
GERMANY.				ITALY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1903	3,885,420	1,331,440	2,553,980	March, 1903			
January-February	5,566,220	2,151,820	3,414,400	January-February			
Three months, 1903	9,451,640	3,483,260	5,968,380	Three months, 1903			
Three months, 1902	7,036,700	2,682,020	4,354,680	Three months, 1902	370,260	42,460	327,800
Three months, 1901	6,182,080	1,321,540	5,160,540	Three months, 1901	479,160	69,080	410,080
FRANCE.*				AUSTRIA-HUNGARY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1903	1,438,140	534,600	903,540	March, 1903	264,880	8,360	256,520
January-February	2,379,540	1,567,280	832,260	January-February	477,180	440	476,740
Three months, 1903	3,817,680	2,101,880	1,735,800	Three months, 1903	742,060	8,800	733,260
Three months, 1902	5,305,300	2,030,160	3,275,140	Three months, 1902	642,620	660	641,960
Three months, 1901	4,555,100	2,262,260	2,292,840	Three months, 1901	572,440	7,040	565,400
BELGIUM.†							
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.				
March, 1903	1,413,100	1,201,101	242,059				
January-February	2,133,723	1,360,986	732,737				
Three months, 1903	3,536,883	2,562,087	974,796				
Three months, 1902	4,355,109	2,299,453	2,055,656				
Three months, 1901	3,731,035	2,438,102	1,292,933				

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

\* General Commerce.

† Special Commerce.

WILLIAM T. BAIRD, PRESIDENT

ROBERT B. BAIRD, VICE PRESIDENT

# RUBBER TRADING COMPANY

38 MURRAY STREET,  
NEW YORK.

TELEPHONE: 1924 CORTLANDT.

CABLE ADDRESS  
CHAUNBAIR

NEW YORK AND BOSTON

BOSTON OFFICE:

161 SUMMER STREET

TELEPHONE 1599-2 OXFORD.

# CRUDE RUBBER

*Mention The India Rubber World when you write.*

ESTABLISHED 1855.

Geo. A. Alden & Co.,

IMPORTERS OF

India Rubber and  
Gutta Percha,

170 SUMMER STREET,  
BOSTON.

*Mention The India Rubber World when you write.*

India=Rubber (Crude)  
OTTO MEYER,

New England Representative,

A. T. Morse & Co.,  
New York.

No. 161 Summer St.,  
BOSTON, MASS.

Telephone: 543 OXFORD.  
Cable Address: MYERO.

*Mention The India Rubber World when you write.*

Rubber Manufacturers desiring the best lead pigment will find Sublimed White Lead most satisfactory for Standard Tire Stocks—and for all other Stocks where toughness and resiliency is desirable and necessary.

For samples and prices address

## PICHER LEAD CO.,

FOR THE EAST:  
100 WILLIAM STREET,  
NEW YORK.

FOR THE WEST:  
WESTERN UNION BUILDING,  
CHICAGO.

*Mention The India Rubber World when you write.*





Best Made.

*Mention The India Rubber World when you write.*

## HOLDEN, LEONARD & CO.,

72 LINCOLN ST. BOSTON.

Rain-proof  
Cloths  
in large variety  
of fabrics and  
styles.



New plant  
completed.  
Cloths treated  
for the  
trade.

CORRESPONDENCE INVITED.  
*Mention The India Rubber World when you write.*

## Milford Rubber Company,

**PROOFING HEADQUARTERS** for

**TRIPLEX GOODS** such as **COTTON COVERTS DUCKS**, etc. Also all kinds of **DOUBLE AND SINGLE TEXTURE GOODS** skirt bindings, etc. : : :

Office: No. 65 ESSEX STREET, BOSTON.

Factory: Milford, Mass.

*Mention The India Rubber World when you write.*

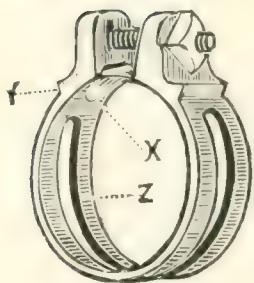
## Conant Rubber Co.,

### DRESS SHIELDS, NURSERY and HOSPITAL SHEETING.

Offices: No. 170 PURCHASE STREET, BOSTON.

Factory: SOUTH FRAMINGHAM, MASS.

*Mention The India Rubber World when you write.*



**Yerdon's Improved  
Double Hose Band....**

**SIMPLE, STRONG, SURE.**

Send for Sample and Prices.

**WILLIAM YERDON, - Fort Plain, N. Y.**

*Mention The India Rubber World when you write.*

"ALL ABOUT INDIA-RUBBER AND GUTTA-PERCHA"

PUBLISHED BY FERGUSON, IN CEYLON.

\$1.75, prepaid, at THE INDIA RUBBER WORLD office.

## PROOFERS OF CLOTH FOR THE TRADE.

## MOULD AND PRESS WORK.

**PLYMOUTH RUBBER CO.**

STOUGHTON, MASS.

Manufacturers of "NERV-EZE" whole and lift Heels.

*Mention The India Rubber World when you write.*



THE  
**SUBMARINE**

(PATENTED)

Will Positively keep the Hair Dry.

*Mention The India Rubber World when you write.*

**D. C. HALL & CO.,**

86 LEONARD ST., NEW YORK.

MANUFACTURERS OF

WATERPROOF STOCKINET,

DIAPER SHIELDS, BIBS,

SHEETS and SHEETING,

BATHING CAPS,

HATS and HOODS

DRESS SHIELDS, Etc.

**BARATA & SALVADOR,**  
Caixa Postal 380, - MANAOS (Brazil).

IMPORT AND EXPORT MERCHANTS.

SPECIALTIES IN

**Rubber, Balata, Cocoa,**

Piassaba, Hides, Egret Plumes, Balsam of Copaiba,

Andisoba, Tonka Beans, Vanilla, Brazil Nuts, etc.

*Mention The India Rubber World when you write.*

**The Atlas Chemical Co.**

NEWTONVILLE, MASS.


MANUFACTURERS OF

**SULPHURET OF ANTIMONY**

FOR THE RUBBER TRADE.

*Mention the India Rubber World when you write.*





**Remember Our Trade Mark.**

The frame of the Morris Spring Bottom Duck Basket is built of steel, the weight being proportioned to the size of the basket. Every basket bearing our trade mark is rigid, strong, and durable. These baskets are made of extra heavy duck, and so constructed as to be perfectly smooth inside and out. They are the only baskets having spring bottoms and sides that protect the contents. They are the lightest, handiest, and most serviceable baskets made, and will outwear any other.

Send for a free booklet, describing them in full.

**MORRIS & COMPANY, Yardville, N. J.**

## W. B. SMITH WHALEY & CO.,

Mechanical and Mill Engineers,

1012 TREMONT BUILDING,  
BOSTON, MASS.

1328 MAIN STREET,  
COLUMBIA, S. C.

ELECTRIC POWER TRANSMISSION A SPECIALTY.

Parties interested in electric driven machinery  
are invited to correspond with our Boston Office.

*Mention The India Rubber World when you write.*

## William R. Thropp,

Manufacturer of

Rubber Washers, Grinders and Refiners.

Automatic Jar Ring Lathes.

Hydraulic Steam Presses, Vulcanizers.

Moulds and Special Machinery.

Bicycle Tire Moulds a Specialty.

TRENTON, N. J., U. S. A.

*Mention The India Rubber World when you write.*

## MOULDS

Especially Vehicle Tire Moulds

ALSO

Hydraulic and Hand Presses,

Ring and Disc Cutting Machinery,

Tubing Machines, etc.

THE WILLIAMS FOUNDRY AND  
MACHINE CO.,

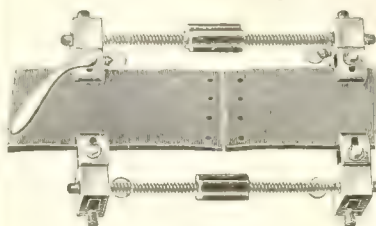
Akron, Ohio.

*Mention The India Rubber World when you write.*

Wherever Belting is used the

## PORTER BELT CLAMP

will pay for itself in a very short time.



Cutting Dies,

Moulds, all kinds

Roll Engraving,

Steel Stamps, etc.

THE HOGGSON & PETTIS MFG. CO.,

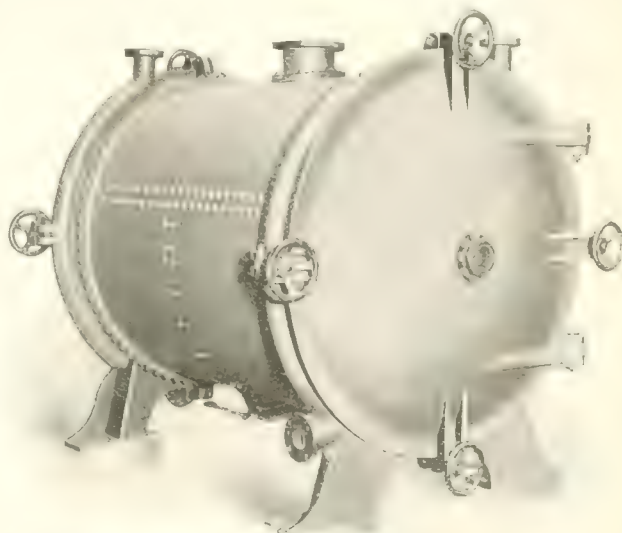
NEW HAVEN, CONN., U. S. A.

*Mention The India Rubber World when you write.*

## VACUUM DRYING MACHINES.

STATIONARY AND ROTARY.

Sheet and Shoddy Rubber and Chemicals can be Dried in a Few Hours at Low Temperature. No Oxidation, Burning, or Melting of the Material. Large Drying Capacity of Several Charges per Day. Exhaust Steam or Hot Water for Heating. No other Drying System so Economical in Time, Space, and Steam.



AMERICAN VACUUM DRYING MACHINE CO.,

WORKS: NEW HAMBURGH, N. Y.

Testing Station and Office: 120 LIBERTY ST., N. Y. CITY.

Our Laboratory Vacuum Apparatus is suitable for Practical Drying Tests

**WARNING: INFRINGEMENTS ON OUR PATENTS WILL BE PROSECUTED.**

*Mention The India Rubber World when you write.*

# RUBBER GOODS

HARD RUBBER GOODS

COTTON RUBBER LINED  
HOSE

LINEN HOSE

Office and Factory  
TRENTON, N. J.

MECHANICAL  
RUBBER  
GOODS

NEW YORK OFFICE  
80 Reade St.

CHICAGO OFFICE  
17 La Salle St.

## JOS. STOKES RUBBER CO.



# THE NEW CENTURY RUBBER CO.

MANUFACTURERS OF

## Reclaimed Rubber

**Facilities:** New factory: machinery, our own design. **Quality:** We claim flexibility, strength and durability. The results of twenty five years' practical experience. We guarantee our product to be absolutely free from ingredients that are in any way detrimental to the life of manufactured rubber goods.

WORKS:

EAST BURLINGTON, N. J.

Address all communications to office:

515 DREXEL BUILDING, PHILADELPHIA, PA.

*Mention The India Rubber World when you write.*

ESTABLISHED 1848.

## TOCH BROTHERS,

468-470-472 WEST BROADWAY, - NEW YORK CITY.

MANUFACTURERS OF

## Rubber Colors, Pigments and Chemicals

BRILLIANT TILE RED

GREEN for cold and hot cure

BALLOON RED

BLACK

YELLOW

WHITE

BUFF

BROWN

MAROON

SPECIAL COLORS FOR TILES.

If you want any special color made to order, communicate with us. If you are interested, send to us for copy of the "Chemistry of Raw Materials," which will be mailed to you gratis.

*Mention The India Rubber World when you write.*

## RUBBER FLUX.

OUR Rubber Flux works as its name suggests. It fluxes refractory mill-stocks, increases their capacity for pigment absorption and assists milling to a remarkable degree.

It *prevents blooming* and does not sweat or blow.

Pronounced by experts the most useful and economical rubber substitute ever produced. Has been thoroughly tested and is generally used. Samples sent on application. Address "Rubber Dept."

MASSACHUSETTS CHEMICAL CO.,

170 SUMMER STREET, BOSTON, MASS., U. S. A.

*Mention The India Rubber World when you write.*

## “SPECIAL”

## Zinc Oxide

for the

## Rubber Trade.

The New Jersey Zinc Company,

11 BROADWAY,

NEW YORK.

*Mention The India Rubber World when you write.*

# TYPKE & KING, INDIA RUBBER CHEMISTS, ETC.

OFFICES, 47 WILSON ST., FINSBURY SQUARE, LONDON, ENGLAND.

JOSEPH CANTOR, AGENT IN U. S., WALLACE BUILDING, 56-58 PINE ST., NEW YORK.

## RUBBER SUBSTITUTES,

MADE FROM REFINED RAPE SEED OIL, FREE FROM ACID.

FINE CHEMICALS FOR RUBBER WORKING, GUARANTEED RELIABLE, AND NOT TO VARY.

## CRIMSON & GOLDEN SULPHURETS OF ANTIMONY.

*Mention The India Rubber World when you write.*

**PURE  
SOFT  
SULPHUR**

ESTABLISHED 1841.

INCORPORATED 1897

**Bergen Port  
Sulphur Works**

ORIGINAL MANUFACTURERS  
OF

**PURE SOFT SULPHUR**

PREPARED ESPECIALLY FOR

**Rubber Manufacturers.**

**T. & S. C. WHITE CO.,  
28 Burling Slip, NEW YORK.**

*Mention The India Rubber World when you write.*

**BENZOL**

HEADQUARTERS FOR  
**ALL GRADES**  
of Coal Tar Naphtha and  
Benzol.

Samples and prices on application.

CHEM. DEPT.,  
**BARRETT MFG. CO.,**  
Philadelphia.

**SULPHUR**

**BROOKLYN SULPHUR WORKS.**  
Manufacturers of  
Double Refined and Sublimed  
**FLOUR SULPHUR**  
Especially adapted to the use of  
RUBBER MANUFACTURERS  
AND WARRANTED FREE FROM GRIT.  
**BATTELLE & RENWICK**  
163 Front St., New York.

First Qualities.  Brand.  
**ANTIMONY GOLDEN SULPHURET**

Always contains same constant percentage  
of Free Sulphur.

Action Ges. Georg Egestorff's Salzwerke,  
Linden, near Hanover, Germany.

*Mention The India Rubber World when you write.*

**H. L. TERRY,**

Fellow of the Institute of Chemistry.

**Analytical and Consulting Chemist.**

Is open to be consulted on all matters relating to the  
technology of India-rubber, and to conduct Analyses  
of Rubber Goods.

LABORATORY:

23 HOPWOOD AVE.,  
MARKET PLACE.

MANCHESTER, ENGLAND.

**New Process Pitch**  
from  
**Long Leaf Pine**

10 GRADES  
Light Amber, Dark,  
Black

Absolutely free from  
Pyroligneous Acid  
Send for Mail Samples

**E. B. WEED & CO., Fayetteville, North Carolina.**

*Mention The India Rubber World when you write.*

## Chemical Analysis of

Crude materials and Rubber Compounds; Insulating, Waterproofing, Hose,  
Tires, Shoes, Heels, Gaskets, Mats, Bands, Packing, Belting, Unvulcanized, Vul-  
canized, Sulphur. Mineral fillers determined. Substitute. Reclaimed Rubber  
stock. [Member Am. Chem. Soc.; M. S. C. I., London; M. D. C. Gesell, Berlin.]

**DURAND WOODMAN, Ph. D.,**

ANALYTIC AND TECHNICAL CHEMIST,

127 PEARL STREET,

NEW YORK

*Mention The India Rubber World when you write.*

**FOSSIL  
FLOUR**

For reducing cost of

**RUBBER COMPOUNDS**  
and improving quality of products.  
Samples and information free.

THE FOSSIL FLOUR COMPANY

229 PEARL STREET,  
NEW YORK.

**SUBSTITUTES**

and RUBBER MANUFACTURERS'  
SUPPLIES.

THE STAMFORD RUBBER SUPPLY CO.,  
STAMFORD, CONN.

P. CARTER BELL, General Manager

W. F. GILLESPIE, Treasurer.

*Mention The India Rubber World when you write.*



Established 1880

---

Philadelphia  
Rubber Works  
Reclaimed  
Rubber

Philadelphia  
U. S. A.

---

Foreign Representatives:

For Great Britain  
Kuhn & Co.,

31, Lombard Street, London, E. C.

For the Continent

H. P. Moorhouse,

29, Rue des Petites-Écuries, Paris.

# PEQUANOC RUBBER CO.

MANUFACTURERS OF

## Pure Reclaimed Rubber

by an improved mechanical process, without the use of acids, or alkalies. A strictly high-grade superior product, absolutely bone dry, clean and reliable at all times.

Factory and Office: **BUTLER, NEW JERSEY.**

Telephone: 16 Butler.

Send SAMPLES AND PRICES ON APPLICATION.

*Mention The India Rubber World when you write*

# RAYMOND RUBBER CO.,

MANUFACTURERS OF

NEW YORK OFFICE,

60 BROAD STREET.

## RECLAIMED RUBBER,

OFFICE AND FACTORIES, TITUSVILLE, NEW JERSEY.

NEW JERSEY RUBBER COMPANY,

MANUFACTURERS OF ALL KINDS OF

## RECLAIMED \* RUBBER,

Auxiliary Plant for Trimmings, daily Capacity of 20,000 Pounds. Total daily Capacity 45,000 Pounds.

Office and Factories, LAMBERTVILLE, NEW JERSEY.

*Mention The India Rubber World when you write.*

 We Manufacture Our Products by Mechanical Means. 

# THE BLOOMINGDALE SOFT RUBBER WORKS,

Manufacturers of

THE FINEST GRADES OF

# Reclaimed and Devulcanized Rubber

FOR

Manufacturing and Mechanical Purposes.

**BLOOMINGDALE, N. J.**

*Mention The India Rubber World when you write.*



ESTABLISHED 1856.

**WILLIAM SOMERVILLE'S SONS,**3, COOPERS ROW,  
LIVERPOOL, ENGLAND.118-120 JOHN STREET,  
NEW YORK, U. S. A.DEALERS IN **SCRAP RUBBER.**  
ALL KINDS OFCABLE ADDRESS: LIVERPOOL MAYFLOWER.  
NEW YORK-SOMERVILLE.CODES: A. B. C.  
LIEBERS.*Mention the India Rubber World when you write.***E. BERS & CO.,**

ESTABLISHED 1890.

CABLE ADDRESS:

BERSANDO, PHILA.

CODES, A B C, 4TH ED., AND PRIVATE.

NEW YORK HOUSE,  
10½ DESBROSSES ST.

COMMISSION MERCHANTS AND DEALERS IN

**SCRAP RUBBER,**

FOREIGN AND DOMESTIC CORRESPONDENCE SOLICITED.

22 AND 24 So. DELAWARE AVE., PHILA.

*Mention the India Rubber World when you write.***WM. H. CUMMINGS & SONS**  
**BUY AND SELL RUBBER WASTE.**Cable Address, P. O. Box 732.  
UNITMOSQUE.

54-56 Harrison Street, New York, U. S. A.

*Mention The India Rubber World when you write.***THEODORE HOFELLER & CO.,**

Nos. 98, 100 and 102 TERRACE, BUFFALO, N. Y., U. S. A.

FOREIGN AND DOMESTIC CORRESPONDENCE SOLICITED.

Cable Address, HOFELLER, BUFFALO.

A. B. C. and Lieber's Codes Used.

**LARGEST DEALERS IN OLD RUBBER IN THE WORLD.***Mention the India Rubber World when you write.***FEIST STRAUSS,**EXPORTER OF **WASTE RUBBER and OLD GOLOSHES,**IMPORTER OF **RECLAIMED RUBBER.**

Zeil 23, FRANKFORT-ON-MAIN, GERMANY.

Cable Address: "Gutta-Frankfurtmain."

A B C Code, Lieber's Code.

CORRESPONDENCE SOLICITED.

*Mention The India Rubber World when you write.***S. BIRKENSTEIN & SONS**

BUY AND SELL

All kinds of **RUBBER SCRAP**

48-50-52 Michigan St., CHICAGO

*Mention The India Rubber World when you write.***SALOMON BROS. & CO.,**

99 NASSAU STREET,

NEW YORK.

All kinds of **RUBBER SCRAP,**

Boots and Shoes, Solid and Pneumatic Tires,

Air Brake Hose, Buffers, Heavy Rubber.

*Mention The India Rubber World when you write.***NEW YORK CITY**

The firm of W. C. Coleman Co., late of Boston, dealers in all kinds of scrap rubber, are now located in New York City, at No. 154 West Broadway.

THEO. S. BASSETT, President.  
MAX LOEWENTHAL, Treasurer.

R. A. LOEWENTHAL, Vice President.  
WALTER T. ROSEN, Secretary.

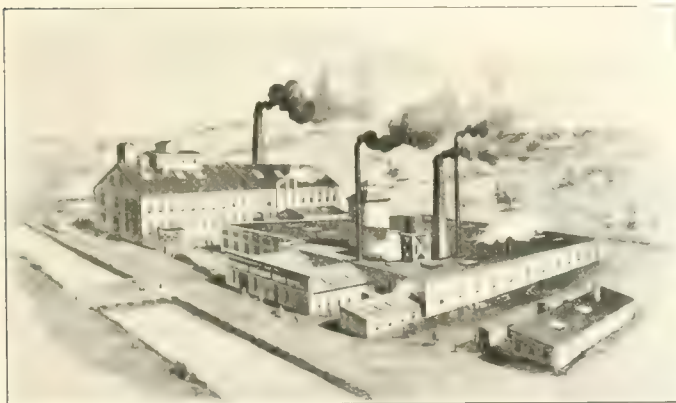
# U. S. RUBBER RECLAIMING WORKS.

## Manufacturers of RECLAIMED RUBBER.

Offices: No. 127 DUANE STREET, NEW YORK.



FACTORY AT BUFFALO, N. Y.



FACTORY No. 1, SHELTON, CONN.



FACTORY No. 2, SHELTON, CONN.

NEW ENGLAND REPRESENTATIVE:

OTTO MEYER, No. 161 Summer Street, Boston.

FOREIGN REPRESENTATIVES:

WM. SOMERVILLE'S SONS, 3, Cooper's Row, Liverpool, England.

Great Britain and the Continent of Europe.

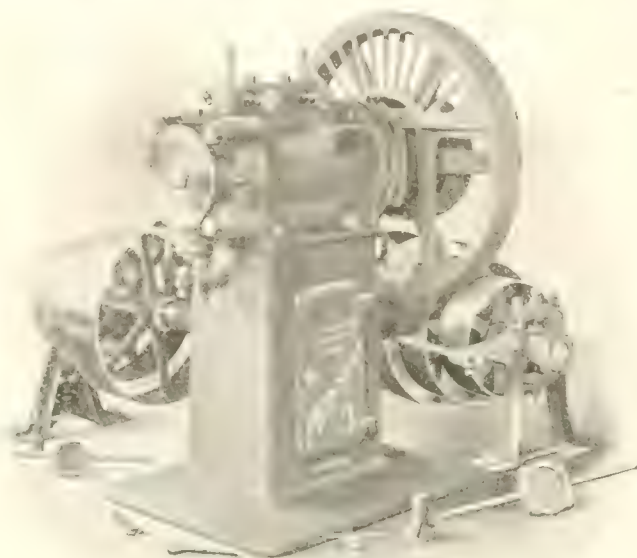
G. BRICE, 92, Rue de la Victoire, Paris, France.

Seul Agent Dépositaire. France and Belgium.

*Mention The India Rubber World when you write.*



# Say! Mr. Rubber Man—



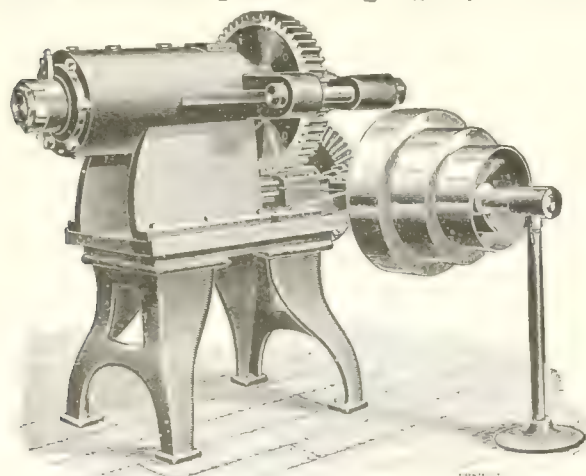
Couldn't you do better work if you could depend absolutely upon your Tubing Machines for a steady and a plentiful flow of Compound? If you had Royle Tubing Machines you'd never worry, for they're an antidote for all the woes that the maker of Rubber Goods is heir to. Write and ask about them, for we have the machine you want.

**JOHN ROYLE & SONS, Paterson, N. J., U. S. A.**

*Mention The India Rubber World when you write*

## CLARK'S Reliable Tubing Machine

FOR THE MANUFACTURE OF RUBBER TUBING AND CORD,  
And also the Covering of Electrical and Telephone Cables.



MANUFACTURED IN 4 SIZES BY

**EDRED W. CLARK, MACHINIST,**

Rubber Moulds and Rubber Machinery, Screw and Hydraulic Presses a Specialty.

No. 31 WELLS STREET, HARTFORD, CONN.

*Mention The India Rubber World when you write.*



### JENKINS BROTHERS' VALVES.

Perfectly tight under all pressures of steam, oils or acids.  
Warranted to give satisfaction under the worst conditions.

Received the **GOLD MEDAL** at the Pan-American Exposition.

Insist on having the genuine stamped with Trade Mark.  
**JENKINS BROTHERS, New York, Boston, Philadelphia, Chicago.**



## THE MASON Reducing Valves

ARE THE WORLD'S STANDARD VALVES.

For automatically reducing and absolutely  
maintaining an even steam or air pressure

*They are adapted for every need and guaranteed  
to work perfectly in every instance.*

WRITE FOR FULL INFORMATION AND  
SPLENDID REFERENCES

**THE MASON REGULATOR CO. Boston, Mass., U.S.A.**

### BY RETURN MAIL

Subscribers can learn where to buy any article or class of goods from the manufacturer, publisher or importer per conditions page one, each issue. On trial six months 10 cents. None free under any pretext.

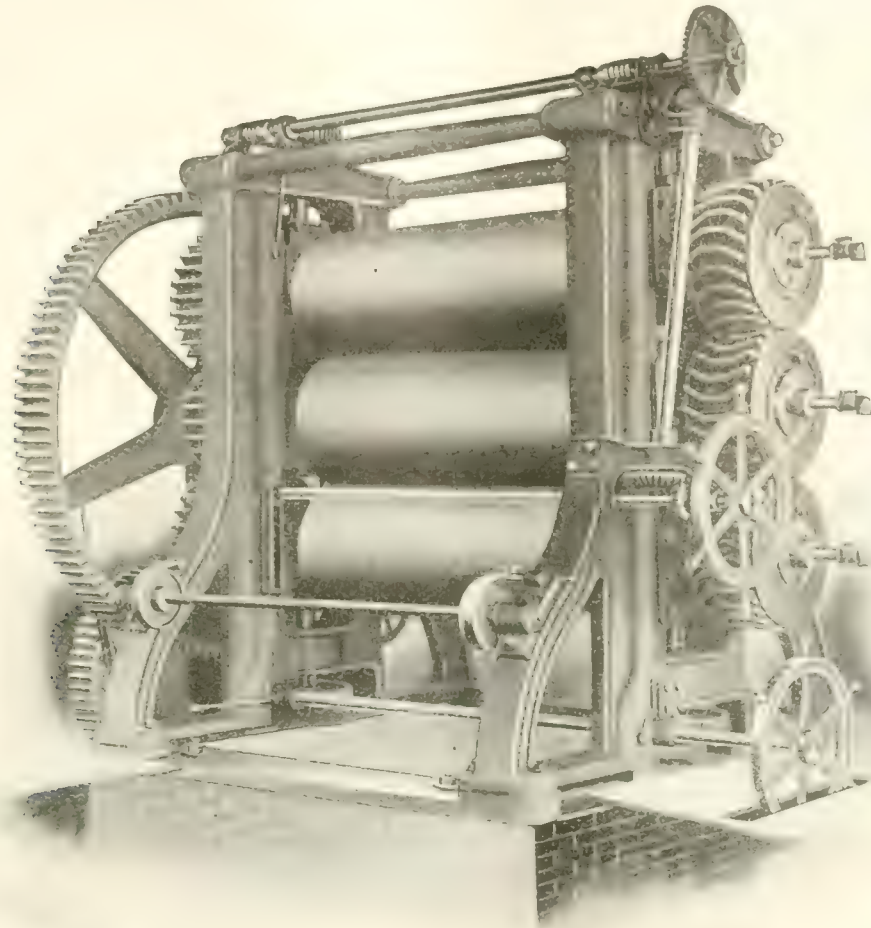
**GENERAL INFORMATION, 307 Main St., Binghamton, N. Y.**

*Mention The India Rubber World when you write.*

# BIRMINGHAM IRON FOUNDRY,

## DERBY, CONN., U. S. A.

Oldest and Largest Makers of RUBBER MILL MACHINERY in the United States.



THREE ROLL CALENDER.

**CALENDERS - GRINDERS - MIXERS**  
**WARMERS - WASHERS - REFINERS**  
**HYDRAULIC PRESSES - HOSE MACHINERY**  
**SPECIAL MACHINERY**

*Mention The India Rubber World when you write.*



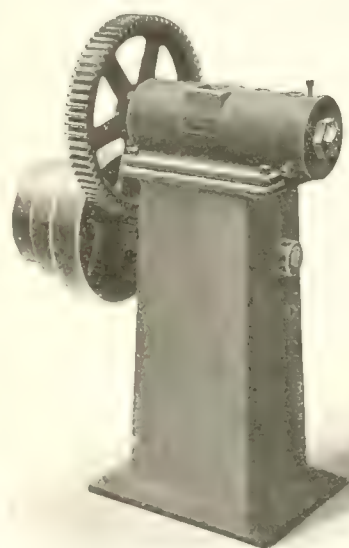
# AMERICAN TOOL & MACHINE CO.

109 BEACH ST.

BOSTON MASS.

Double and Single End Spreaders,  
Doubling Machines, Churns, Etc.

WRITE FOR CATALOGUE AND PRICES.

*Manf's. Ador Bureau**Mention The India Rubber World when you write*

## Our New 2 Tubing Machine

is provided  
with thrust  
roller bearings  
and cut gears  
and is just  
right for small  
work. . . . .

A. ADAMSON,  
AKRON, OHIO.

Manufacturer of Screw and Hydraulic Presses, Accumulators,  
Jar Ring Lathes, Tubing Machines, Wringer Roll Grinders, Band  
Cutting Machines, Wrapping Machines, Cement Mixers, Molds,  
Steam Traps, etc.

*Mention The India Rubber World when you write.*

## Embossing Calenders

- - FOR - -

Artificial Leather, Table Oil Cloth  
and Carriage Covers.

## Drying Machines

with Copper Cylinders for Cotton Duck,  
Drills and Sheeting.

THE TEXTILE-FINISHING MACHINERY CO.,  
PROVIDENCE, R. I.

*Mention The India Rubber World when you write.*

Handwork is costly  
and inaccurate.

Anything that the hands can do  
can be done by Machinery.

No Problem is too Difficult for us.

Do you want a Machine for any  
Purpose in Rubber Work?

Write to us and we will Produce it.

WELLMAN SOLE CUTTING MACHINE CO.,  
MEDFORD, MASSACHUSETTS.

A. M. STICKNEY, President.

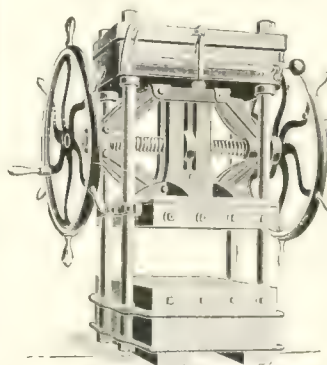
EDWARD BROOKS, Treasurer.

*Mention The India Rubber World when you write.*

## STEAM PRESS

FOR

Mechanical Goods.



HYDRAULIC  
OR  
KNUCKLE JOINT.

Write for Prices.

Boomer & Boscher Press Co.,  
336 West Water St.,

SYRACUSE, N. Y.

*Mention The India Rubber World when you write.*

ESTABLISHED 1848.

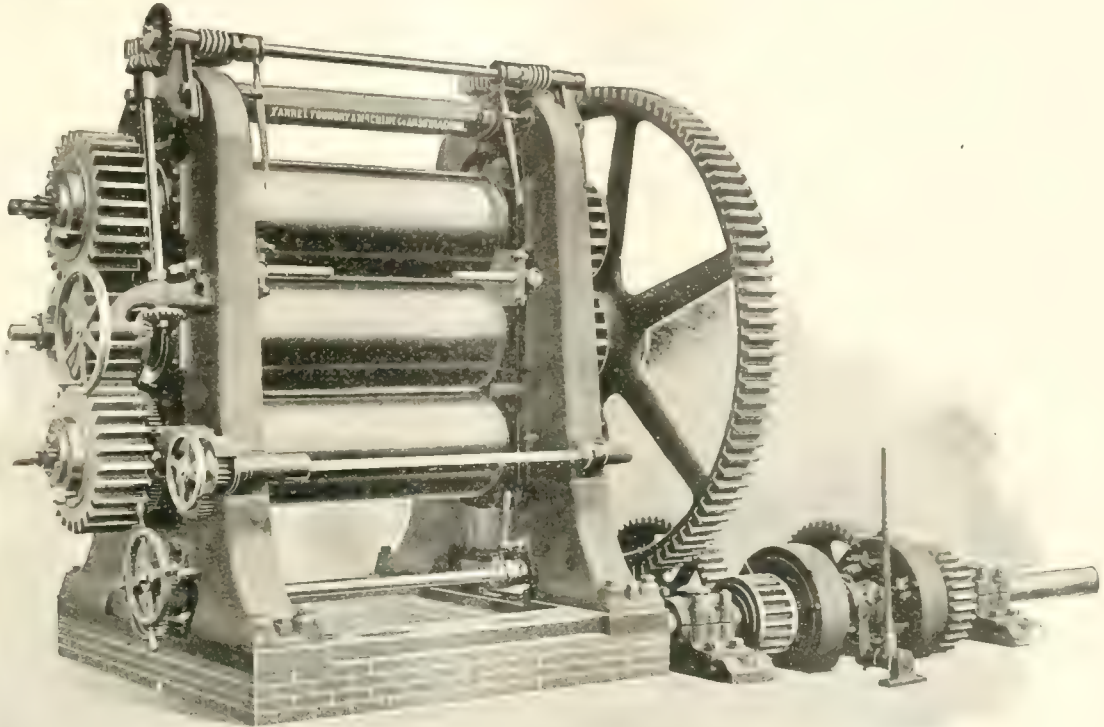
# Farrel Foundry and Machine Co.,

Largest Manufacturers in the World of

# Rubber Machinery.

FRANKLIN FARREL, PRES.  
CHARLES F. BLISS, TREAS.  
FRANK E. HOADLEY, SEC

ANSONIA, CONN., U. S. A.



STANDARD THREE ROLL CALENDER.

CALENDERS, GRINDERS, MIXERS, CRACKERS, WASHERS,  
WARMERS and REFINERS.

HYDRAULIC BELT PRESSES, with Hydraulic Stretchers,  
MULTIPLE HEEL and SCREW PRESSES, PUMPS,  
ACCUMULATORS and FITTINGS.

---

LINOLEUM MACHINERY—Calenders, Grinders, Mixers, etc.  
Cabling, Winding, Spooling and Measuring Machines for Insulated Wire.  
Chilled Iron and Sand Rolls of all sizes, Steel and Wrought Iron Rolls.  
Shafting, Machine Moulded Gearing, Friction Clutches, etc.

*Mention The India Rubber World when you write.*



**\$1,500,000****TEN YEAR 6% FIRST MORTGAGE SINKING FUND****GOLD BONDS OF****THE CONSOLIDATED UBERO PLANTATIONS COMPANY****DUE JULY 1, 1912****INTEREST PAYABLE JAN. 1 AND JULY 1****PRINCIPAL AND INTEREST PAYABLE AT THE****INTERNATIONAL TRUST COMPANY, BOSTON****Bonds issued in Coupon Form With Privilege of Registration as to Principal. Each \$500 Bond Carries with it \$500 of Stock****AS A BONUS****DIRECTORATE**ARTHUR W. STEDMAN, *President*. Of the firm of George A. Alden & Co., Importers of Crude Rubber, Boston, Mass.FREDERIC C. HOOD, *Treasurer*. Treasurer of the Hood Rubber Co., Boston, Mass.E. H. NEBEKER, *Treasurer*. Former Treasurer of the United States, Indianapolis, Ind.WILLIAM D. OWEN, *Director*. Ex Secretary of State of Indiana, Indianapolis, Indiana.SEÑOR THOMAS MORAN, *Director*. Member of the House of Deputies and Director of the New York Life Insurance Co. in Mexico, Mexico City, Mexico.SEÑOR BERNARDO REYES, *Director*. Prominent Financier, Son of the present Minister of War of the Republic, Mexico City, Mexico.CHARLES A. MUEHLBRONNER, *Director*. Proprietor Iron City Produce Co., Importers of Foreign Fruits, Director German National Bank and Western Savings Bank, Pittsburgh, Pa.

**I**N order that the bond holders and stockholders may have as wide a representation as possible, an Advisory Board, composed of twenty-one representative business men, has been formed. These gentlemen will pass upon all questions of importance and make such recommendations to the Board of Directors as may seem warranted in each case.

Five Hundred Thousand Dollars (\$500,000) of this allotment of bonds, is offered for cash and the remaining One Million Dollars (\$1,000,000) on 45 monthly payments. Each payment as made, is secured by issuing to the purchaser a 6 per cent. First Mortgage Sinking Fund Gold Note. These notes recite upon their face that when a purchaser has \$500 worth of them he may exchange them for One (1) \$500 6 per cent. First Mortgage Gold Bond at the INTERNATIONAL TRUST COMPANY, Boston, and receive, at the time of exchange, an equal bonus of stock.

The business of the Company is the growing and marketing of all tropical products, including Oranges, Lemons, Grape and other Citrus Fruits, Yucca, Coffee, Rubber, Pineapples, etc.

The bonds and notes are secured by a First Mortgage upon all the assets of the Company, real and personal, including 6000 acres of land, 1600 of which is under cultivation; a General Store, Merchandise, Residences, Administration Building, Starch Mill, Pineapple Cannery, Tin Can Factory, Bank, Laborer's Quarters, Warehouses, Live Stock, Mules, Cattle, etc., etc., together with all the necessary equipment and machinery to carry on the business of the Company.

**The present actual cash value of the property is \$1,011,062.50.** The money realized from the sale of bonds now offered will be used for further development and acquisitions. The property is located in the richest agricultural district of Mexico, on the Tehuantepec National Railroad, equi-distant from the Gulf of Mexico and the Pacific Ocean.

Yearly Estimated Profits: Guaranteed Interest on Bonds 6 per cent.; Estimated Earning on Stock 3 per cent.; Total 9 per cent. As more development is made and as more crops come into bearing each year, it is confidently expected that the earnings will gradually increase.

We desire to call attention to the fact that the management of THE CONSOLIDATED UBERO PLANTATIONS COMPANY has financed a number of similar propositions in the past. Notably among these are UBERO PLANTATION COMPANY OF INDIANAPOLIS, now in its fourth year and which has paid successively 10, 15 and 20 per cent. the last three years. Also, THE UBERO PLANTATION COMPANY OF BOSTON, which paid a 10 per cent. dividend December 31, 1901, and has declared a dividend of 10 per cent., payable December 31, 1902. Both of these properties are contiguous to those of this Company.

The proposition to the public is a very simple one. You purchase of the Company one bond for each \$500. You can make this purchase for cash or at the rate of \$5 or more per bond, per month. The Company gives you a First Mortgage upon all of its assets, real and personal, to secure whatever money you invest in its bonds. These bonds are due in ten years, but as 70 per cent. of the net earnings each year are paid to the INTERNATIONAL TRUST COMPANY, Boston, Mass., for the redemption of the bonds, some bonds will be redeemed on the first day of each January. This is decided by lot so that your bond may be redeemed on the first day of any January. With each \$500 bond which you purchase, **the Company gives you \$500 of stock as a bonus**, so that when your bond has been redeemed, you still have your investment in the Company represented by your bonus of stock, *which has not cost you a single cent of your own money*. The stock issued as a bonus to the bond purchasers is now earning 3 per cent., and naturally participates more largely in the earnings of the Company after the bonds have been paid, because none of the profits of the Company will then be required to pay interest on the bonds. So that, if no further development was made this same stock will then earn 9 per cent. This, however, must of necessity increase as new crops come into bearing.

For further information, prospectus, copy of legal opinion as to the validity of issue of these bonds, or for blank forms of application, apply in person or by letter to

**THE CONSOLIDATED UBERO PLANTATIONS COMPANY,****No. 89 STATE STREET, BOSTON, MASS.**

**BELTING**

**BELTING**

**BELTING**

**BELTING**

FOR EVERY POSSIBLE USE

**COMBINATION RUBBER AND BELTING CO.**

Main Office and Works, BLOOMFIELD, Essex Co., New Jersey, U. S. A.

SALESROOMS—

NEW YORK:  
157 CEDAR ST

PHILADELPHIA:  
43 N. SEVENTH ST.

CHICAGO:  
198 RANDOLPH ST.

*Mention The India Rubber World when you write.*

**RUBBER TRADE—ATTENTION!**  
**A GREAT CODE**

For those who have to do with Rubber, Asbestos, Packing, Belting, etc., in any Shape or Form.

The only Publication of its kind in Existence.

It covers every Conceivable Technical Phrase used by the Trades.

A Great Money Saver.

Reduces Telegraph and Cable Tolls to a Minimum.

It contains a List of nearly 1,000 of the Largest Manufacturers, Exporters and Importers in the Trades with their Addresses and Cable Addresses.

Sent Post Free on Approval to any Responsible Firm.

**PRICE, \$10.00 PER COPY.**

Discounts in Quantities.

A Live, Substantial Advertising Medium.

PUBLISHED BY THE

INTERNATIONAL CABLE DIRECTORY COMPANY,

No. 17 STATE STREET, NEW YORK.

SALISBURY HOUSE, LONDON WALL, LONDON, E. C.

*Mention The India Rubber World when you write.*

**Keeps the Heater Man  
Up to His Work.**



NO. 300.

**This**

**Does**

**For**

DRY HEATERS USED IN CURING

Rubber Boots and Shoes,

Carriage Drills, Surface Clothing,

Double Texture Goods, etc.

**HELIOS-UPTON CO.,**

PEABODY, MASS.

*Mention the India Rubber World when you write.*



WM. W. ALLIS,

FRANK K. BULL,

C. R. CARPENTER,

WARREN E. FISH,

Secretary.

Vice President.

Treasurer.

# BADGER MEXICAN PLANTERS COMPANY

Capital Stock \$245,000 Common and \$30,000 Preferred

## BOARD OF DIRECTORS

WM. W. ALLIS, President E. P. Allis Co., Milwaukee, Wis.

FRANK K. BULL, President J. I. Case Threshing Machine Co., Racine, Wis.

CHAS. R. CARPENTER, Cashier Commercial &amp; Savings Bank, Racine, Wis.

WARREN E. FISH, Secretary Badger Mexican Planters Co., Racine, Wis.

HENRY A. SALZER, President Salzer Seed Co., La Crosse, Wis.

CHAS. E. TINGLEY, Manager Standard Rivet Co., Boston, Mass.

H. A. J. UPHAM, Attorney at Law, Milwaukee, Wis.

FRED CARNEY, JR., President Fence River Logging Co., Marinette, Wis.

E. A. JAMES, Manager Grain Dept. Armour &amp; Co., Chicago, Ill.

E. K. TARBELL, Prop. Hotel Winona, Winona, Minn.

SAMUEL D. DORMAN, Plantation Manager Badger Mexican Planters Co., San Juan Evangelista, V. C., Mexico.

**T**HE BADGER MEXICAN PLANTERS COMPANY has acquired properties aggregating 10,000 acres in the state of Vera Cruz, on the banks of the Colorado and Trinidad Rivers, and directly on the line of the Vera Cruz and Pacific Railroad, in the midst of an American

Colony which is developing the finest agricultural district in Southern Mexico. Included in these properties is the **Plantation "La Florencia,"** formerly owned by Mr. Samuel D. Dorman, one of the very best and most favorably known American Plantations upon the Isthmus of Tehuantepec. **Plantation "La Florencia"** has now planted upon it 50,000 rubber trees, of which several thousand will be ready to tap the coming season. There are also 25,000 coffee trees six and seven years old which have, for the past three years, averaged more than one pound of coffee per tree. This plantation has been the residence of its owner for the past



RUBBER AND COFFEE ON PLANTATION "LA FLORENCIA."

eight years and has been repeatedly referred to as a model plantation by planters and interested travelers of wide experience.

This company is organized as a development company, whose purpose is to organize several plantation companies for whom the lands will be developed under contract with the usual large profits. It is, however, the purpose of the parent company to retain a permanent interest in each plantation from which it is expected a very large annual income will be derived for years to come. To assist the promotion of these plantation companies and the sale of stock therein, the parent company now offers a limited amount \$24,000.00 of the common treasury stock of the corporation at the par value of \$100.00 per share.

It is the idea of the Directors of this company that the above named purpose will be most readily accomplished by distributing the stock of the parent company as widely as possible. Subscriptions to this stock are therefore limited to five shares (\$500.00).



PLANTATION MANAGER'S RESIDENCE, AT "LA FLORENCIA."

**A Word to the Wise is Sufficient. This Advertisement Will Appear But Once**

**BADGER MEXICAN PLANTERS COMPANY**

412 ROBINSON BUILDING, RACINE, WISCONSIN

*Mention The India Rubber World when you write.*

# Crude Rubber and Compounding Ingredients.

10572.

ALL OFFICIAL COMMUNICATIONS TO THIS  
OFFICE SHOULD BE ADDRESSED  
"CHIEF SIGNAL OFFICER,  
U. S. ARMY, WASHINGTON, D. C."

War Department,

SIGNAL OFFICE.

WFP-H

Washington, January 3, 1902.

Mr. Henry C. Pearson,

India Rubber Publishing Co.,  
150 Nassau St., New York.

ORDER NO. 1132.

Sir:

I am directed by the Chief signal Officer of the Army to place  
an order with you for two copies of "Crude Rubber and Compounding  
Ingredients," a text book on rubber manufacture, which it is under-  
stood you publish.

You will prepay the postage on these books and include it in  
your bill but not as a separate item. Instructions for rendering  
bills and blank vouchers are inclosed.

You will address the package to the Chief signal Officer, U. S.  
Army, Washington, D. C.

Very respectfully,

*Gray D. Harrison*  
Major, Signal Corps, U.S.A.,  
Disbursing Officer.

Encls.

PRICE, \$10. PREPAID.



SPECIALLY ADAPTED  
for all purposes in

## Rubber Manufacturing

State your REQUIREMENTS and  
we will be pleased to give you the  
results of our 15 years experience.

HOHMANN &amp; MAURER MFG. CO.,

ROCHESTER, N. Y., U. S. A.

Send for Illustrated Catalogue R.

London: 57 D, Hatton Garden, E. C. New York: 85 Chambers St.  
Chicago: 119 Lake St.

ESTABLISHED 1859.

# THE LIVERPOOL RUBBER COMPANY, Ltd.

## LIVERPOOL, ENGLAND.



*The highest grade of Rubber Boots and Shoes, "Liver"  
and "Ideal" Canvas Shoes, etc., etc.*

*High grade Mechanical, Engineering and Mill Work,  
Railway Springs, Valves, Buffers, Sheets, Insertion, Rings,  
Bladders, Deckles, Printers' Blankets, Hose, Belting, Mats,  
Packing, etc., etc.*

*Cycle and Carriage Tires, "Lockfast" pneumatic, single tube, cushion  
and solid.*

*India Rubber Thread.*

CHIEF OFFICE: 292 VAUXHALL RD., LIVERPOOL,

and at 34 Aldermanbury, London, E. C.,

20 Rue des Marais, Paris,

333 Kent St., Sydney, New South Wales.

Factories: Vauxhall Road, and Walton, Liverpool.

Mention the India Rubber World when you write.



# J. H. LANE & CO.,

BOSTON.

CHICAGO.

110 WORTH ST., NEW YORK.

PHILADELPHIA.

LONDON.

HOSE  
BELT  
SAIL  
WIDE

**DUCKS**

PAPER FELTS  
OUNCE GOODS  
ARMY DUCK  
OSNABURGS

**AUTOMOBILE  
AND BICYCLE**

**TIRE FABRICS**

SHEETINGS AND DRILLS.

SEA ISLAND, EGYPTIAN, AND PEELER YARNS,  
AND FABRICS IN REGULAR AND SPECIAL CONSTRUCTION.

*Mention The India Rubber World when you write.*

**NOT INJURED BY OIL**

Low  
Cost  
Belting

We make the cheapest priced belting in the world, if wearing results are considered. "Royal Worcester" Belts save loss of time, loss of power, loss of labor; weigh the most—greatest power transmitters. Do not sag, slip, or cause accident. Most inexpensive belts to use in the world.

We shall be glad to quote you prices, or send you a sample belt for free trial in your own factory.

Let us hear from you at once.

**GRATON & KNIGHT MFG. CO.,**

*Only English Belt Makers, Worcester, Mass.*

*Mention The India Rubber World when you write.*

**Vulcanizers of all sizes,**

**CALENDERS, GRINDERS, MIXERS AND WASHERS,**

**Hydraulic and Screw Presses,**

**Hydraulic Pumps and Accumulators.**

**THOS. F. STEVENSON,**

**120 LIBERTY ST., NEW YORK.**

Correspondence solicited. Several second-hand Calenders and Grinders for sale.

*Mention The India Rubber World when you write.*

**BONNER MANUFACTURING CO.,**

MANUFACTURERS  
OF ALL GRADES

**RUBBER SUBSTITUTES.**

GOODS MADE TO ORDER A SPECIALTY.

OFFICE: No. 89 State Street,

BOSTON, MASS.

*Mention The India Rubber World when you write.*

WHEN THE  
**STURTEVANT SYSTEM**  
IS EMPLOYED FOR  
**DRYING RUBBER**

THE FORCED CIRCULATION OF WARM  
AIR REDUCES THE TIME BY 50%, IM-  
PROVES THE PRODUCT AND SIMPLIFIES  
THE PROCESS.

The same system, giving  
thorough ventilation, is  
used for heating factory  
buildings, offices, etc.

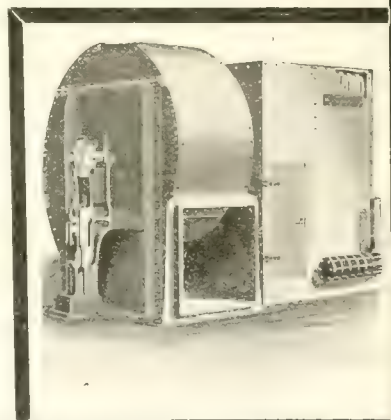
**B. F. STURTEVANT  
COMPANY,**

**BOSTON, MASS.**

NEW YORK, CHICAGO.

PHILADELPHIA LONDON

285



*Mention The India Rubber World when you write.*

# Publishers' Page **INDIA RUBBER WORLD**

OFFICES:

No. 150 NASSAU ST., NEW YORK

## When To Send In Advertising "Copy."

OUR advertisers would confer a great favor upon the Publisher if, in sending in "copy" for changes, they would endeavor to do so as long as possible in advance of the date of publication—which is the last day of the month. We do not desire to fix any arbitrary rule as to the latest date in the month on which advertising copy will be received, for reasons may develop, just before the printing of the paper, to make a change of advertisement desirable. At the same time, it will add to the convenience of the business office if those who intend sending in advertising "copy" will consider, not the **latest date** on which it can be handled, but the **earliest date** on which it can be furnished. Time should be allowed for sending proofs to the advertiser.

## Three Rubber Planting Companies Write:

FROM Milwaukee: "We have always held THE INDIA RUBBER WORLD in high esteem, as we have known it to be thoroughly reliable, and the paper of the country when it comes to treating on matters pertaining to India-rubber. - - - I don't understand how we could run our office without it."

FROM St. Louis: "THE INDIA RUBBER WORLD has been a welcome visitor at this office for several years, and the items concerning the planting and cultivation of rubber have been much appreciated."

FROM Boston: "We refer to your publication quite frequently, and as we keep it on file in our agents' reading room, they find much to interest and instruct them."

## The Latest Practice in The Rubber Industry.

"WE failed to appreciate from the advertisements of 'Crude Rubber and Compounding Ingredients' that it was really so well *up to date* as an examination of your book has shown it to be. We should suggest that in future advertisements of it, you emphasize the fact that it embodies the latest practice in the rubber industry."

## Bound Volumes.

A FEW bound volumes of THE INDIA RUBBER WORLD can still be supplied—pretty good looking volumes, we think, and we have heard some favorable things said about their contents. The latest order to come to hand is from Australia, where our paper has had some appreciative readers since the year one of its publication.

## Rubber of Interest to an Eastern Editor.

A SUBSCRIPTION order for this Journal comes from the editorial office of one of the oldest and most important daily newspapers in the Far East. There is yet some news that doesn't travel by wire, and we trust that the wireless news contained in THE INDIA RUBBER WORLD will be of service to our far off contemporary.

# Mexican Lands.

TO individual purchasers or plantation companies I will sell at rock bottom prices Rubber and Tropical Plantation lands in the states of Vera Cruz, Oaxaca, Tabasco, and Chiapas, in tracts to suit, from 1,000 to 1,000,000 acres. All statements as to title and value guaranteed.

I have 1,000,000 acres of heavily timbered rubber lands that I can subdivide if desired, in the heart of the Rubber, Mahogany, Cedar, and Tropical Woods country on the largest river in Mexico, with a magnificent saw milling and manufacturing site. It is proposed to cut off the timber,—taking care of the Rubber trees now growing and planting new ones, that will in a few years make a magnificent rubber forest at practically no cost. Address—

J. J. FITZGERRELL, 1a. San Francisco, No. 7, Mexico City, Mexico, or  
M. M. FITZGERRELL, 810 Olive Street, St. Louis, Missouri.

Mention The India Rubber World when you write.

## Complete Your Files.

WE have inquiries every month for back numbers to complete sets of THE INDIA RUBBER WORLD, from subscribers who on taking stock of their files, find gaps. Late orders of this kind are from London, Norway, and Singapore. We shall not be able long, however, to fill such orders, and if there are others desirous of completing sets, it might be well to apply early.

## Rubber in the Philippines.

WE are not able yet to say whether there is much rubber in the Philippines, but that an interest in rubber is felt by somebody is indicated by the constant demand from there for rubber literature. The United States government is a subscriber for five copies of THE INDIA RUBBER WORLD for various officials in the Philippines, in addition to the copies which go out to private addresses in the archipelago.

## Much Traveled "India Rubber Worlds."

THE mails have brought to us from India six back numbers of THE INDIA RUBBER WORLD, recently advertised for on this page, which proves that a little advertisement may go a long way—and bring results. These papers, while they may not have gone round the world, certainly have traveled twice half way round.

## November (1902) Issues Wanted.

THOUGH we plan to print every month a sufficient number of copies of THE INDIA RUBBER WORLD to supply every want, the demand for our November issue was so much greater than usual that we were obliged to begin declining orders for it very early in the month. We trust that some of our friends who do not file their copies will oblige us by sending in several at an early date, for which we shall be pleased to pay 25 cents each, either in cash or by crediting their subscription accounts.

# Would-be Rubber Planters May Save Money.

ASHMORE RUSSAN, of 46, Leadenhall street, London, England, expert in the cultivation of tropical products, as Coffee, Cacao, Sugar-cane, Tobacco, etc., with special knowledge of India-rubber cultivation and collection in Mexico, Brazil, Africa, etc., is open to examine and report upon virgin lands or plantations in any part of the world. Terms, references, and specimen reports on application, as above.

# Journal d'Agriculture Tropicale.

AGRICULTURAL, SCIENTIFIC, COMMERCIAL.

PUBLISHED BY

J. VILBOUCHEVITCH,

10, Rue Delambre, Paris, (France.)

Subscription: ONE YEAR, 20 FRANCS.  
SIX MONTHS, 10 FRANCS.

THE JOURNAL OF TROPICAL AGRICULTURE, devoted to the study of tropical cultivation, giving place to the scientific study of Caoutchouc species. The JOURNAL is international in character, and is planned especially for the use of French and English. The French language is spoken or read.

Mention THE INDIA RUBBER WORLD when you write.



# MATTSON RUBBER CO.

No. 26 West Broadway

NEW YORK

MANUFACTURERS OF

Dress Shields and Dress Shield Materials

Stamp Rubbers and Sponge Backing

Hat Bags and Hat Manufacturers Rubber Supplies

Eraser Rubbers

All kinds of MOULD WORK

Mixing and Calendering for the Trade

Mention The India Rubber World when you write.

# PHILIP McGRORY,

TRENTON, N. J.

Wholesale Dealer in SCRAP RUBBER.

THE HIGHEST CASH PRICE PAID FOR NEW AND OLD, CURED AND UNCURED  
SCRAP RUBBER OF ALL KINDS.

Second-Hand Rubber Mill Machinery Bought and Sold.

Mention The India Rubber World when you write.

Herbert S. Kimball, 101 Tremont Street,  
Boston, Mass.

Chemical Engineer and Mill Architect.

Engineering Problems Relating to the Rubber Industry.

Designs for Buildings and Equipment.

Mention The India Rubber World when you write.

## Small Advertisement Department.

### BUSINESS OPPORTUNITY.

PARTY identified with a Mechanical Reclaiming Company would be interested to hear of a proposition from a chemical reclaiming company for the purposes of combining the two lines into one company. Any concern desiring to take the matter up will please address MUTUAL, care of THE INDIA RUBBER WORLD. [384]

YOUNG MAN with a large personal acquaintance among Eastern Rubber Manufacturers, and having a well established business, is open to a position as salesman or agent for any staple article used by Rubber Manufacturers; would handle on salary or commission. Address AGENT, care of THE INDIA RUBBER WORLD. [392]

### WANTED.

FRICITION CALENDER. — About 60" wide, in good working condition; second hand. State lowest cash price, make, and where can be seen. Address MANUFACTURER, P. O. Box 356, New York City. [385]

### SITUATIONS OPEN.

AN experienced Compounder, Mill and Calender Foreman, wanted for new plant. Must have up-to-date compounds and methods. Give age, experience, and where now or last employed, with references and other details when you reply to, H. W., care of THE INDIA RUBBER WORLD. [394]

CALENDER MAN. — Must thoroughly understand friction on long cotton cloth. If satisfactory will have permanent employment and good wages. Address S. A. F., care of THE INDIA RUBBER WORLD. [378]

WANTED. — Competent man, by a large manufacturer of rubber goods making Mechanicals and Tires, to get up Catalogues and all kinds of up-to-date advertising circulars. Address ABILITY, care of THE INDIA RUBBER WORLD. [377]

WANTED. — Good Calender man who has had experience in running friction and good grades of rubber stock. Steady work at good wages. Address CALENDER, P. O. Box, 1643, New York City. [386]

WANTED. — Calender man who thoroughly understands running cloths; also mechanical work. Address P. R., care of THE INDIA RUBBER WORLD. [387]

WANTED. — By first class Reclaiming Company a man who thoroughly understands the acid process of reclaiming all kinds of rubber goods, both in green stock and cured stock. To the one who can take charge of this department and understand his business thoroughly a good position is offered. Address understanding experience and wages expected. All replies will be treated absolutely confidential. Address CONFIDENTIAL, care of THE INDIA RUBBER WORLD. [388]

### GOLF BALL MACHINERY.

FOR SALE. — One 12 x 3 ft. 8 in. diameter, 3 ft. 6 in. high, approx. capacity 205 gal. capacity. With steam and steam or water heater. Also one 10 x 7 ft. 6 in. diameter, 3 ft. 10 in. high, capacity 200 gal. capacity. Also one 8 x 3 ft. 8 in. diameter, 3 ft. 4 in. high, capacity 370 gallons. Also one 10 x 7 ft. 6 in. diameter, 3 ft. 10 in. high, capacity 200 gal. capacity. All these Tanks were made specially for use of naphtha, and are in excellent condition. Also one Centrifugal, 30 in. with hangers, pulleys, etc. Address THE INDIA RUBBER WORLD. [371]

### SITUATIONS WANTED.

SUPERINTENDENT. — A man of unquestionable ability in manufacturing Mechanical Rubber Goods, Druggists' Sundries, and Tires of all descriptions, wishes to form new connection; willing to assume all responsibilities and guarantee the best of results compatible with given facilities. Best of references from last employers. Address SELF RELYING, care of THE INDIA RUBBER WORLD. [366]

### FOR SALE.

ALL KINDS RUBBER WASTE. — We sell at low price, pure unvulcanized Rubber Scrap from Cement Waste. Write for free sample. Best cash prices paid for rubber scrap and waste. Old Wringer Rolls bought and sold a specialty. UNITED STATES WASTE RUBBER CO., No. 487 N. Warren avenue, Brockton, Mass.

FOR SALE. — Two 5 ft. by 20 ft. Devulcanizers, to stand 125 pound pressure; three Calenders and eighteen 30" x 30" Hydraulic Presses, two openings. Address PHILIP MCGRORY, Trenton, New Jersey. [390]

FOR SALE. — Two self feeding Box Making Machines, used only a short time in rubber shoe factory that went out of business; also one Box Branding Machine used at the same factory. Address PHILIP MCGRORY, Trenton, New Jersey. [393]

## DR. PETER T. AUSTEN

COUNSEL AND EXPERT IN MANUFACTURING CHEMISTRY  
Processes, Formulas, Products, Patents, Wastes, Costs, Nuisances, etc. Experimental Tests and Investigations. Expert in Patent and Technical Litigation.  
69 PINE STREET, NEW YORK.

## RUBBER AND COFFEE LANDS.

THE Mexican Land and Colonization Company owns several hundred thousand acres of land suitable for Rubber and Coffee in the State of Chiapas, Mexico. The majority of the coffee plantations in Soconusco now producing largely were originally purchased from this Company also La Zacualpa and other rubber plantations.

For further particulars apply to

O. H. HARRISON,

Spreckels Annex, 713 Market Street, SAN FRANCISCO.

Mention the India Rubber World when you write.



# BUYERS' DIRECTORY OF THE RUBBER TRADE.

CLASSIFIED LIST OF MANUFACTURERS AND DEALERS IN INDIA-RUBBER GOODS AND RUBBER MANUFACTURERS' SUPPLIES.

## INDEX TO ADVERTISERS.

NAME.	PAGE.	NAME.	PAGE.	NAME.	PAGE.
Adamson, A.	XXXIV	Kimball, Herbert S.	XLII	Sadomon Bros. & Co.	XXX
Akron Commercial Co.	XV	Kokomo Rubber Co.	X	Schradler & Elbers	XV
Akron Rubber Works.	XIX	La Crosse Rubber Mills Co.	XXII	Sheep Mfg. Co., Henry H.	XV
Alden Rubber Co.	XIX	Lake Shore Rubber Co.	X	Sherman Mfg. Co., H. B.	X
Alden & Co., Geo. A.	II, XXI	Lane & Co., J. H.	XI	Singer Manufacturing Co.	II
American Hard Rubber Co.	XX	La Zuculpa Rubber Plantation	XXII	Somerville's Sons, Wm.	XXX
American Tool & Machine Co.	XXXIV	Liverpool Rubber Co., Ltd.	XXIX	Speight Geo. W.	I
American Vacuum Drying Machine Co.	XXIV	McGregory, Philip.	XLII	Stamford Rubber Supply Co.	XXVII
Atlas Chemical Co.	XXIII	Manhattan Rubber Mfg. Co.	XLII	Stashman & Co., Inc., J. H.	I
Austen, Peter T.	XLII	Mason Regulator Co.	XXVII	Stevenson, Thos. E.	XXI
Badger Mexican Plantation Co.	XXXVII	Massachusetts Chemical Co.	XXVI	Stokes Rubber Co., Jos.	XXV
Bailey & Co., C. J.	XIV	Mathison Rubber Co.	XXII	Strauss, Feist	XXX
Bangan Rubber Co., Jos.	XVI	Mechanical Rubber Co.	XX	Sturtevant Co., B. F.	XL
Barberton Rubber Wks.	I	Meyer, Otto	XXI	Taintor Mfg. Co., H. F.	VII
Barra & Salvador	XXIII	Miford Rubber Co.	XXIII	Lerry, H. L.	XXVII
Barrett Mfg. Co.	XXVII	Morris & Co.	XXIV	Textile-Finishing Machinery Co.	XXIV
Bartelle & Renwick	XXVII	Morse & Co., A. T.	XXI	Thropp, William R.	XXIV
Bers & Co.	XXX	New Century Rubber Co.	XXVI	Tech Bros.	XXVI
Birkstein & Sons, S.	XXX	New Jersey Car Spring & Rubber Co.	X	Traut & Sons, H.	XV
Birmingham Iron Foundry	XXIII	New Jersey Rubber Co.	XXIX	Trenton Rubber Mfg. Co.	XXII
Bloomington Soft Rubber Wks.	XXII	New Jersey Zinc Co.	XXVI	"Tropical Agriculturist"	XV
Bonner Mfg. Co.	XI	New York Belting & Packing Co.	XX	Tyer Rubber Co.	LII
Boomer & Boschert Press Co.	XXIII	New York Rubber Co.	VIII	Typke & King	XXVII
Boston Belting Co.	II	Peerless Rubber Mfg. Co.	XXIII	United States Rubber Co.	XXVII
Boston Woven Hose & Rubber Co.	V	Pennsylvania Rubber Co.	XII	U. S. Rubber Reclaiming Wks.	XXXI
Brooks Bros. & Co.	XXIX	Pequannoc Rubber Co.	XXIX	U. S. Waste Rubber Co.	XLII
Cable Rubber Co.	II	Philadelphia Rubber Wks.	XXVII	Voorhees Rubber Mfg. Co.	IV
Cabot, Samuel	II	Picher Lead Co.	XXI	Wanted and For Sale	XXII
Cantor, Joseph	XXVII	Plymouth Rubber Co.	XXIII	Weed & Co., E. B.	XXVII
Chicago Rubber Wks.	XIX	Pure Gum Specialty Co.	XIV	Well Mfg. Co.	I
Chicago Tire & Rubber Co.	XV	Raymond Rubber Co.	XXIX	Wellman Sote Cutting Machine Co.	I
Cleveland Rubber Wks.	XXIII	Revere Rubber Co.	XXII	Western Rubber Co.	XXIV
Combination Rubber & Belting Co.	XI	Revere Rubber Co.	I	Williams Foundry & Machine Co.	XXIV
Conant Rubber Co.	XXIII	Royle & Sons, John	XXVII	Whaley & Co., W. B. Smith	XXIV
Consolidated Ubero Plantations Co.	XXXVI	Rubber Trading Co.	XXI	White, T. & S. C. Co.	XXVII
		Rissau, Ashmore	XXI	Whitman & Barnes Mfg. Co.	XXIII
				Woodman, Ph. D., Durand	XXVII
				Yatman Rubber Co.	XY
				Yerdon, William	XXIII

## MECHANICAL RUBBER GOODS

Belting.  
Diaphragms.  
Gaskets.  
Gauge Glass Washers.  
Hose (Fire, Garden, Steam).  
Mats and Matting.  
Mould Work.  
Packing.  
Valves.  
Washers.

### Mechanical Rubber Goods—General.

Alden Rubber Co., Barberton, O.  
Boston Belting Co., Boston-New York  
Boston Woven Hose & Rubber Co.  
Chicago Rubber Wks., Chicago  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Continental Caoutchouc & Guttapercha Co., Hanover, Germany.  
Crescent Belting & Packing Co., Trenton, N. J.  
Empire Rubber Mfg. Co., Trenton, N. J.  
Eureka Fire Hose Co., New York.  
Eureka Rubber Mfg. Co., Trenton, N. J.  
B. F. Goodrich Co., Akron, O.  
Gorham Rubber Co., San Francisco and Seattle.  
Gutta Percha & Rubber Mfg. Co., N. Y.  
Gutta Percha & Rubber Mfg. Co., Toronto.  
Home Rubber Co., Trenton, N. J.  
Lake Shore Rubber Co., Erie, Pa.  
Liverpool Rubber Co., Liverpool, Eng.  
Manhattan Rubber Mfg. Co., New York.  
Mechanical Rubber Co., New York.  
National India Rubber Co., Providence, N. J.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
New York Belting & Packing Co., N. Y.  
New York Rubber Co., New York.  
Peerless Rubber Mfg. Co., New York.  
Pennsylvania Rubber Co., Jeannette, Pa.  
Republic Rubber Co., Youngstown, Ohio.

## MECHANICAL GOODS.

Revere Rubber Co., Boston.  
Jos. Stokes Rubber Co., Trenton, N. J.  
Trenton Rubber Mfg. Co., Trenton, N. J.  
Voorhees Rubber Mfg. Co., Jersey City.  
Western Rubber Co., Goshen, Ind.  
Whitman & Barnes Mfg. Co., Akron, O.

### Air Brake Hose.

Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Crescent Belting & Packing Co., Trenton, N. J.  
Eureka Rubber Mfg. Co., Trenton, N. J.  
N. J. Car Spring & Rubber Co., Jersey City.

Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, Ohio.  
Revere Rubber Co., Boston-New York.  
Voorhees Rubber Mfg. Co., Jersey City.  
Whitman & Barnes Mfg. Co., Akron, O.

### Belting (Cotton).

Boston Woven Hose & Rubber Co.  
Eureka Fire Hose Co., New York.  
Peerless Rubber Mfg. Co., New York.  
Revere Rubber Co., Boston-New York.

### Belting (Thresher).

Boston Woven Hose & Rubber Co.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Crescent Belting & Packing Co., Trenton, N. J.  
Peerless Rubber Mfg. Co., New York.

### Billiard Cushions.

Alden Rubber Co., Barberton, Ohio.  
Boston Belting Co., Boston.  
Combination Rubber & Belting Co., Bloomfield, N. J.

B. F. Goodrich Co., Akron, O.  
Manhattan Rubber Mfg. Co., New York.  
New York Belting & Packing Co., Ltd.  
New York Rubber Co., New York.  
Revere Rubber Co., Boston-New York.  
Whitman & Barnes Mfg. Co., Akron, O.

### Blankets—Printers.

Boston Belting Co., Boston.  
Hodgman Rubber Co., New York.  
Liverpool Rubber Co., Liverpool, Eng.

## MECHANICAL GOODS.

N. J. Car Spring & Rubber Co., Jersey City, N. J.  
Revere Rubber Co., Boston-New York.  
Voorhees Rubber Mfg. Co., Jersey City.

### Boss Washers.

Combination Rubber & Belting Co., Bloomfield, N. J.

### Brushes.

American Hard Rubber Co., New York.  
Boston Woven Hose & Rubber Co.  
C. J. Bailey & Co., Boston.

### Buffers.

Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Combination Rubber & Belting Co., Bloomfield, N. J.

Crescent Belting & Packing Co., Trenton, N. J.  
Liverpool Rubber Co., Ltd., Liverpool.

"Bull Dog" Packing.

Boston Woven Hose & Rubber Co.

### Carriage Mats.

Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Combination Rubber & Belting Co., Bloomfield, N. J.

Crescent Belting & Packing Co., Trenton, N. J.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.

Peerless Rubber Mfg. Co., New York.  
Voorhees Rubber Mfg. Co., Jersey City.

### Coin Mats.

Alden Rubber Co., Barberton, O.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Goodyear Tire & Rubber Co., Akron, O.

N. J. Car Spring & Rubber Co., Jersey City, N. J.  
New York Belting & Packing Co., N. Y.

### Cord (Pure Rubber).

Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Crescent Belting & Packing Co., Trenton, N. J.

## MECHANICAL GOODS.

Davol Rubber Co., Providence, R. I.  
Empire Rubber Mfg. Co., Trenton, N. J.  
Home Rubber Co., Trenton, N. J.  
Manhattan Rubber Mfg. Co., New York.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
New York Belting & Packing Co., N. Y.  
Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston-New York.  
Voorhees Rubber Mfg. Co., Jersey City.

### Deckle Straps.

Boston Belting Co., Boston.  
Combination Rubber & Belting Co., Bloomfield, N. J.

Liverpool Rubber Co., Liverpool, Eng.  
Mechanical Rubber Co., Chicago.  
New York Belting & Packing Co., N. Y.  
Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston-New York.

### Door Springs.

Hodgman Rubber Co., New York.

### Dredging Sleeves.

Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Combination Rubber & Belting Co., Bloomfield, N. J.

N. J. Car Spring & Rubber Co., Jersey City.  
Republic Rubber Co., Youngstown, O.

### Fleshing Bands.

Combination Rubber & Belting Co., Bloomfield, N. J.  
Republic Rubber Co., Youngstown, O.

### Force Cups.

Hodgman Rubber Co., New York.  
"Forsyth" Combination Packing.  
Boston Belting Co., Boston-New York.

### Fruit Jar Rings.

Alden Rubber Co., Barberton, O.  
Boston Woven Hose & Rubber Co.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co., Bloomfield, N. J.



## RUBBER BUYERS' DIRECTORY—CONTINUED.

## MECHANICAL GOODS.

Crescent Belting & Packing Co., Trenton, N. J.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 Eureka Rubber Mfg. Co., Trenton, N. J.  
 Manhattan Rubber Mfg. Co., New York  
 Republic Rubber Co., Youngstown, Ohio  
 New York Belting & Packing Co., N. Y.  
 Whitman & Barnes Mfg. Co., Akron, O.

## Fuller Balls.

Combination Rubber & Belting Co.,  
 Bloomfield, N. J.  
 N. J. Car Spring & Rubber Co., Jersey  
 City.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Whitman & Barnes Mfg. Co., Akron, O.

## Gas-Bags (Rubber).

Cleveland Rubber Co., Cleveland, O.  
 Davol Rubber Co., Providence, R. I.  
 Liverpool Rubber Co., Liverpool, Eng.  
 N. J. Car Spring & Rubber Co., Jersey  
 City, N. J.  
 Peerless Rubber Mfg. Co., New York.  
 Tyler Rubber Co., Andover, Mass.  
 Voorhees Rubber Mfg. Co., Jersey City.

## Grain Drill Tubes.

Boston Belting Co., Boston-New York.  
 Republic Rubber Co., Youngstown, O.  
 Whitman & Barnes Mfg. Co., Akron, O.

## Hat Bags.

Alden Rubber Co., Barberton, O.  
 Boston Belting Co., Boston.  
 Boston Woven Hose & Rubber Co.,  
 Bloomfield, N. J.  
 Home Rubber Co., Trenton, N. J.  
 Manhattan Rubber Mfg. Co., New York  
 Mechanical Rubber Co., Chicago.  
 N. J. Car Spring & Rubber Co., Jersey  
 City, N. J.  
 New York Belting & Packing Co., N. Y.  
 New York Rubber Co., New York.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston.

## Horse Shoe Pads.

Boston Woven Hose & Rubber Co.,  
 Bloomfield, N. J.  
 Crescent Belting & Packing Co., Tren-  
 ton, N. J.  
 Peerless Rubber Mfg. Co., New York.  
 Pennsylvania Rubber Co., Jeannette, Pa.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Revere Rubber Co., Boston-New York.  
 Voorhees Rubber Mfg. Co., Jersey City.  
 Western Rubber Co., Goshen, Ind.  
 Whitman & Barnes Mfg. Co., Akron, O.

## Hose Armor.

Crescent Belting & Packing Co., Tren-  
 ton, N. J.

## Hose—Armored.

Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co.,  
 Bloomfield, N. J.  
 Crescent Belting & Packing Co., Tren-  
 ton, N. J.  
 N. J. Car Spring & Rubber Co., Jersey  
 City.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.  
 Voorhees Rubber Mfg. Co., Jersey City.

## Hose Couplings.

Boston Woven Hose & Rubber Co.,

## Hose Linings.

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.,  
 Bloomfield, N. J.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 N. J. Car Spring & Rubber Co., Jersey  
 City, N. J.  
 Peerless Rubber Mfg. Co., New York.

## Hose Menders.

Boston Woven Hose & Rubber Co.,

## Hose—Protected.

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.,  
 Bloomfield, N. J.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 N. J. Car Spring & Rubber Co., Jersey  
 City, N. J.  
 Peerless Rubber Mfg. Co., New York.

## Hose Rubber Lined.

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.,  
 Bloomfield, N. J.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 N. J. Car Spring & Rubber Co., Jersey  
 City, N. J.  
 Peerless Rubber Mfg. Co., New York.

## MECHANICAL GOODS.

Combination Rubber & Belting Co.,  
 Bloomfield, N. J.  
 Crescent Belting & Packing Co., Tren-  
 ton, N. J.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 Eureka Fire Hose Co., New York  
 Eureka Rubber Mfg. Co., Trenton, N. J.  
 Gutta Percha & Rubber Mfg. Co., N. Y.  
 Gutta Percha and Rubber Mfg. Co. of  
 Toronto.

Home Rubber Co., Trenton, N. J.  
 Manhattan Rubber Mfg. Co., New York.  
 N. J. Car Spring & Rubber Co., Jersey  
 City, N. J.  
 New York Belting & Packing Co., N. Y.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston.  
 Jos. Stokes Rubber Co., Trenton, N. J.  
 Voorhees Rubber Mfg. Co., Jersey City.  
 Whitman & Barnes Mfg. Co., Akron, O.

## Hose—Submarine.

Boston Belting Co., Boston-New York.  
 Crescent Belting & Packing Co., Tren-  
 ton, N. J.  
 Republic Rubber Co., Youngstown, O.  
 Boston Woven Hose & Rubber Co.,

## Hose—Wire Wound.

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.,  
 Bloomfield, N. J.  
 Crescent Belting & Packing Co., Tren-  
 ton, N. J.  
 N. J. Car Spring & Rubber Co., Jersey  
 City.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston.

## Lawn Sprinklers.

Boston Woven Hose & Rubber Co.  
**Mallets (Rubber).**  
 Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co.,  
 Bloomfield, N. J.  
 Crescent Belting & Packing Co., Tren-  
 ton, N. J.  
 N. J. Car Spring & Rubber Co., Jersey  
 City.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston.

## Mould Work.

[See Mechanical Rubber Goods.]  
 Chicago Tire & Rubber Co., Chicago.  
 Crescent Belting & Packing Co., Tren-  
 ton, N. J.  
 Davidson Rubber Co., Boston.  
 Davol Rubber Co., Providence, R. I.  
 Faultless Rubber Co., Akron, O.  
 Hodgman Rubber Co., New York.  
 La Crosse (Wis.) Rubber Mills Co.  
 Mattison Rubber Co.  
 National India Rubber Co., Bristol, R. I.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Rubber Specialty Co., Akron, O.  
 Tyler Rubber Co., Andover, Mass.  
 Vatman Rubber Co., Harrison, N. J.  
**"Nubian" Packing.**  
 Voorhees Rubber Mfg. Co., Jersey City.

## Oil Well Supplies.

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.,  
 Bloomfield, N. J.  
 Crescent Belting & Packing Co., Tren-  
 ton, N. J.  
 Lake Shore Rubber Co., Erie, Pa.  
 N. J. Car Spring & Rubber Co., Jersey  
 City.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-Pittsburgh.  
 Voorhees Rubber Mfg. Co., Jersey City.  
 Whitman & Barnes Mfg. Co., Akron, O.

## Paper Machine Rollers.

Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co.,  
 Bloomfield, N. J.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.  
 Peerless Rubber Mfg. Co., New York.  
 Voorhees Rubber Mfg. Co., Jersey City.

## Plumbers' Supplies.

Republic Rubber Co., Youngstown, O.  
 Western Rubber Co., Goshen, Ind.

## Pump Buckets.

Boston Woven Hose & Rubber Co.,  
 Combination Rubber & Belting Co.,  
 Bloomfield, N. J.  
 Peerless Rubber Mfg. Co., New York.  
 Pennsylvania Rubber Co., Jeannette, Pa.  
 Republic Rubber Co., Youngstown, O.

## "Rainbow" Packing.

Peerless Rubber Mfg. Co., New York.  
**Reels—Hose.**  
 Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.,

## MECHANICAL GOODS.

Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.

## Rings.

Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co.,  
 Bloomfield, N. J.  
 Peerless Rubber Mfg. Co., New York.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Republic Rubber Co., Youngstown, O.

## Rollers—Rubber Covered.

Alden Rubber Co., Barberton, O.  
 Boston Belting Co., Boston.  
 Boston Woven Hose & Rubber Co.,  
 Cleveland Rubber Co., Cleveland, O.  
 Combination Rubber & Belting Co.,  
 Bloomfield, N. J.  
 Crescent Belting & Packing Co., Tren-  
 ton, N. J.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 Eureka Rubber Mfg. Co., Trenton, N. J.  
 B. F. Goodrich Co., Akron, O.  
 Home Rubber Co., Trenton, N. J.  
 Manhattan Rubber Mfg. Co., New York.  
 Mechanical Rubber Co., Chicago.  
 N. J. Car Spring & Rubber Co., Jersey  
 City, N. J.  
 New York Belting & Packing Co., N. Y.  
 Peerless Rubber Mfg. Co., New York.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.

## Sewing Machine Rubbers.

Combination Rubber & Belting Co.,  
 Bloomfield, N. J.

## Springs—Rubber.

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.,  
 Combination Rubber & Belting Co.,  
 Bloomfield, N. J.  
 Crescent Belting & Packing Co., Tren-  
 ton, N. J.  
 Liverpool Rubber Co., Liverpool, Eng.  
 N. J. Car Spring & Rubber Co., Jersey  
 City.

Peerless Rubber Mfg. Co., New York.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Republic Rubber Co., Youngstown, Ohio  
 Revere Rubber Co., Boston-New York.  
 Voorhees Rubber Mfg. Co., Jersey City.

## Stair Treads.

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.,  
 Cleveland Rubber Co., Cleveland, O.  
 Combination Rubber & Belting Co.,  
 Bloomfield, N. J.  
 Crescent Belting & Packing Co., Tren-  
 ton, N. J.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 Home Rubber Co., Trenton, N. J.  
 Liverpool Rubber Co., Liverpool, Eng.  
 Manhattan Rubber Mfg. Co., New York  
 N. J. Car Spring & Rubber Co., Jersey  
 City, N. J.  
 New York Belting & Packing Co., N. Y.  
 New York Rubber Co., New York.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.  
 Voorhees Rubber Mfg. Co., Jersey City.

## Tiling.

Combination Rubber & Belting Co.,  
 Bloomfield, N. J.  
 Gutta Percha & Rubber Mfg. Co., N. Y.  
 N. J. Car Spring & Rubber Co., Jersey  
 City.

New York Belting & Packing Co., N. Y.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, Ohio  
 Voorhees Rubber Mfg. Co., Jersey City.

## Tire Inner Tubes.

Western Rubber Co., Goshen, Ind.

## Tires.

BICYCLE AND CARRIAGE.  
 Alden Rubber Co., Barberton, O.  
 Boston Woven Hose & Rubber Co.,  
 Continental Caoutchouc & Guttapercha  
 Co., Hanover.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 B. F. Goodrich Co., Akron, O.  
 Gutta Percha & Rubber Mfg. Co., To-  
 ronto.  
 Kokomo Rubber Co., Kokomo, Ind.  
 Lake Shore Rubber Co., Erie, Pa.  
 Liverpool Rubber Co., Liverpool, Eng.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Republic Rubber Co., Youngstown, O.

CARRIAGE.  
 Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co.,  
 N. J. Car Spring & Rubber Co., Jersey  
 City.  
 New York Belting & Packing Co., N. Y.  
 Pennsylvania Rubber Co., Jeannette, Pa.

## MECHANICAL GOODS.

Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.  
 Western Rubber Co., Goshen, Ind.

## Truck Bands.

Alden Rubber Co., Barberton, O.  
 Boston Belting Co., Boston.  
 Boston Woven Hose & Rubber Co.,  
 Canadian Rubber Co. of Montreal.  
 Cleveland Rubber Co., Cleveland, O.  
 Combination Rubber & Belting Co.,  
 Bloomfield, N. J.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 Home Rubber Co., Trenton, N. J.  
 Manhattan Rubber Mfg. Co., New York.  
 Mechanical Rubber Co., Chicago.  
 N. J. Car Spring & Rubber Co., Jersey  
 City, N. J.  
 New York Belting & Packing Co., N. Y.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Voorhees Rubber Mfg. Co., Jersey City.  
 Whitman & Barnes Mfg. Co., Akron, O.

## Tubing.

[See Mechanical Rubber Goods.]  
 American Hard Rubber Co., New York.  
 Crescent Belting & Packing Co., Tren-  
 ton, N. J.  
 Davidson Rubber Co., Boston.  
 Davol Rubber Co., Providence, R. I.  
 Peerless Rubber Mfg. Co., New York.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Tyler Rubber Co., Andover, Mass.

## Tubing (Beer).

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.,  
 Combination Rubber & Belting Co.,  
 Bloomfield, N. J.  
 Crescent Belting & Packing Co., Tren-  
 ton, N. J.  
 Peerless Rubber Mfg. Co., New York.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Republic Rubber Co., Youngstown, O.  
 Voorhees Rubber Mfg. Co., Jersey City.

## "Usudurian" Packing.

Revere Rubber Co., Boston-New York.  
**Valve Balls.**  
 Boston Belting Co., Boston.  
 Cleveland Rubber Co., Cleveland, O.  
 Combination Rubber & Belting Co.,  
 Manhattan Rubber Mfg. Co., New York  
 Mechanical Rubber Co., Chicago.  
 New York Belting & Packing Co., N. Y.  
 New York Rubber Co., New York.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Whitman & Barnes Mfg. Co., Akron, O.

## Valve Discs.

American Hard Rubber Co., New York.  
 Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co.,  
 Bloomfield, N. J.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.

## Valves.

[See Mechanical Rubber Goods.]  
 Jenkins Bros., New York-Chicago.  
 Plymouth Rubber Co., Stoughton, Mass.

## Wringer Rolls.

Cleveland Rubber Co., Cleveland, O.  
 Combination Rubber & Belting Co.,  
 Bloomfield, N. J.  
 Republic Rubber Co., Youngstown, O.

## DRUGGISTS' AND STATIONERS' SUNDRIES

## Atomizers.

## Bandages.

## Bulbs.

## Water Bottles.

## Druggists' Sundries—General.

American Hard Rubber Co., New York.  
 C. J. Bailey & Co., Boston.  
 Canadian Rubber Co. of Montreal.  
 Cleveland Rubber Co., Cleveland, O.  
 Davidson Rubber Co., Boston.  
 Davol Rubber Co., Providence, R. I.  
 Faultless Rubber Co., Akron, O.  
 B. F. Goodrich Co., Akron, O.  
 Hodgman Rubber Co., New York.  
 Rubber Specialty Co., Akron, O.  
 Tyler Rubber Co., Andover, Mass.

## Balls, Dolls and Toys.

Continental Caoutchouc & Guttapercha  
 Co.  
 New York Rubber Co., New York.  
 Whitman & Barnes Mfg. Co., Akron, O.



## RUBBER BUYERS' DIRECTORY CONTINUED.

## DRUGGISTS' SUNDRIES

## Combs.

American Hard Rubber Co., New York  
Dr. H. Traun & Sons, Harburg, Ger-  
many.  
Schrader & Ehlers, New York.

## Elastic Bands.

Davidson Rubber Co., Boston.  
Daval Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York-Boston  
Pennsylvania Rubber Co., Erie, Pa.  
Tyer Rubber Co., Andover, Mass.  
Whitman & Barnes Mfg. Co., Akron, O.

## Erasive Rubbers.

Davidson Rubber Co., Boston.  
B. F. Goodrich Co., Akron, O.  
Mattson Rubber Co., New York.  
Yatman Rubber Co., Harrison, N. J.

## Finger Cots.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Faultless Rubber Mfg. Co., Akron, O.  
India Rubber Co., Akron, O.  
Pure Gum Specialty Co., Barborton, O.

## Gloves.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Daval Rubber Co., Providence, R. I.  
Faultless Rubber Co., Akron, O.  
India Rubber Co., Akron, O.  
Pure Gum Specialty Co., Barborton, O.

## Hard Rubber Goods.

American Hard Rubber Co., New York.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Daval Rubber Co., Providence, R. I.  
Schrader & Ehlers, New York  
Stokes Rubber Co., Joseph, Trenton, N. J.  
Dr. H. Traun & Sons, Harburg, Ger-  
many.  
Tyer Rubber Co., Andover, Mass.

## Hospital Sheatings.

Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Conant Rubber Co., Boston.  
Davidson Rubber Co., Boston.  
Daval Rubber Co., Providence, R. I.  
Hodgman Rubber Co., New York.  
Plymouth Rubber Co., Stoughton, Mass.  
Tyer Rubber Co., Andover, Mass.

## Hot Water Bottles.

American Hard Rubber Co., New York  
Cleveland Rubber Co., Cleveland, O.  
Davidson Rubber Co., Boston.  
Daval Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York-Boston  
Tyer Rubber Co., Andover, Mass.

## Ice Bags.

Hodgman Rubber Co., New York.  
Pure Gum Specialty Co., Barborton, O.

## Ice Caps.

Pure Gum Specialty Co., Barborton, O.  
Tyer Rubber Co., Andover, Mass.

## Life Preservers

Hodgman Rubber Co., New York.

## Mittens.

Daval Rubber Co., Providence, R. I.  
Faultless Rubber Co., Akron, O.

## Nipple Caps.

Peerless Rubber Mfg. Co., New York.

## Nipples.

Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.

Davidson Rubber Co., Boston.  
Daval Rubber Co., Providence, R. I.  
Faultless Rubber Co., Akron, O.  
Pure Gum Specialty Co., Barborton, O.  
Tyer Rubber Co., Andover, Mass.

## Notions.

American Hard Rubber Co., New York.  
Davidson Rubber Co., Boston.  
Tyer Rubber Co., Andover, Mass.

## Rubbers.

American Hard Rubber Co., New York.

## Sponges (Rubber).

Camp Rubber Co., Ashland, Ohio.  
Chicago Tire & Rubber Co., Chicago.

## Stationers' Sundries.

American Hard Rubber Co., New York.  
Cleveland Rubber Co., Cleveland, O.  
Davidson Rubber Co., Boston.  
Daval Rubber Co., Providence, R. I.  
Goodyear Fire & Rubber Co., Akron, O.  
Hodgman Rubber Co., New York-Boston  
Rubber Specialty Co., Akron, O.  
Tyer Rubber Co., Andover, Mass.

## Stopples (Rubber).

Alden Rubber Co., Barborton, O.

## DRUGGISTS' SUNDRIES

H. O. Canfield, Bridgeport, Ct.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.

Daval Rubber Co., Providence, R. I.  
Hodgman Rubber Co., New York  
Manhattan Rubber Mfg. Co., New York  
New York Belting & Packing Co., N. Y.  
Tyer Rubber Co., Andover, Mass.  
Whitman & Barnes Mfg. Co., Akron, O.

## Surgical Appliances.

Faultless Rubber Co., Akron, O.

## Syringes.

American Hard Rubber Co., New York  
Cleveland Rubber Co., Cleveland, O.  
Daval Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York.  
Tyer Rubber Co., Andover, Mass.

## Throat Bags.

Cleveland Rubber Co., Cleveland, O.  
Daval Rubber Co., Providence, R. I.  
Tyer Rubber Co., Andover, Mass.

## Tobacco Pouches.

Pure Gum Specialty Co., Barborton, O.  
Tyer Rubber Co., Andover, Mass.

RUBBER  
FOOTWEAR

## Boots and Shoes.

American Rubber Co., Boston.  
Joseph Banigan Rubber Co., Providence  
R. I.  
Boston Rubber Shoe Co., Boston.  
L. Candee & Co., New Haven, Ct.  
Granby Rubber Co., Granby, Quebec.  
Gutta Percha & Rubber Mfg. Co. of  
Toronto.

Hood Rubber Co., Boston.  
Jersey Rubber Shoe Co., New York  
Liverpool Rubber Co., Liverpool, Eng-  
land.  
Lycoming Rubber Co., Williamsport, Pa.  
Meyer Rubber Co., New York.

National India Rubber Co., Boston  
Providence  
United States Rubber Co., New York  
Wales-Goodyear Rubber Co., Boston.  
Woonsocket Rubber Co., Providence.

## Heels and Soles.

Boston Woven Hose & Rubber Co.,  
Chicago Tire & Rubber Co., Chicago.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Continental Caoutchouc & Gutta-percha  
Co., Hanover.  
Elastic Tip Co., Boston, Mass.  
Plymouth Rubber Co., Stoughton, Mass.  
Western Rubber Co., Goshen, Ind.

## Tennis Shoes.

American Rubber Co., Boston.  
Joseph Banigan Rubber Co., Prov-  
idence, R. I.  
Boston Rubber Shoe Co., Boston  
Granby Rubber Co., Granby, Quebec.  
Liverpool Rubber Co., Liverpool, Eng-  
land.  
National India Rubber Co., Providence

## Tennis Soles.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.

Jos. Stokes Rubber Co., Trenton, N. J.

## Wading Pants.

Hodgman Rubber Co., New York.

MACKINTOSHED  
AND SURFACE  
GOODS

## Air Goods (Rubber).

Cleveland Rubber Co., Cleveland, O.  
Daval Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York  
New York Rubber Co., New York  
National India Rubber Co., Providence  
Tyer Rubber Co., Andover, Mass.

## Aprons.

Hodgman Rubber Co., New York.

## Barbers' Bibs.

Daval Rubber Co., Providence, R. I.

Tyer Rubber Co., Andover, Mass.

## Bathing Caps.

Conant Rubber Co., Boston.

Daval Rubber Co., Providence, R. I.

D. C. Hall & Co., New York.

## Bellows Cloths.

Boston Rubber Co., Boston

## MACKINTOSHED GOODS.

Cable Rubber Co., Boston  
Cleveland Rubber Co., Cleveland, O.  
Hodgman Rubber Co., New York.  
La Crosse (Wis.) Rubber Mills Co.

## Calendering.

La Crosse (Wis.) Rubber Mills Co.  
Milford Rubber Co., Boston  
Plymouth Rubber Co., Stoughton, Mass.

## Canoe Beds.

Hodgman Rubber Co., New York.

## Carriage Ducks and Drills.

Cable Rubber Co., Boston.  
Cleveland Rubber Co., Cleveland, O.  
Empire Rubber Mfg. Co., Trenton, N. J.  
Eureka Rubber Mfg. Co., Trenton, N. J.  
Gutta Percha & Rubber Mfg. Co., To-  
ronto.

## Clothing.

Cable Rubber Co., Boston.  
Cleveland Rubber Co., Cleveland, O.  
Conant Rubber Co., Boston.  
Granby Rubber Co., Granby, Quebec  
Gutta Percha & Rubber Mfg. Co. of To-  
ronto.  
Hodgman Rubber Co., New York  
Holden, Leonard & Co., Boston.  
La Crosse (Wis.) Rubber Mills Co.

## Cravenette.

Cravenette Co., Ltd.

## Diving Dresses.

Hodgman Rubber Co., New York

## Dress Shields.

Conant Rubber Co., Boston.  
D. C. Hall & Co., New York.  
Hodgman Rubber Co., New York.  
Mattson Rubber Co., New York.

## Horse Covers.

Hodgman Rubber Co., New York.

## Leggings.

Cleveland Rubber Co., Cleveland, O.  
Hodgman Rubber Co., New York.

## Mackintoshes.

[See Clothing]

## Proofing.

La Crosse (Wis.) Rubber Mills Co.  
Milford Rubber Co., Boston.  
Plymouth Rubber Co., Stoughton, Mass.

## Rain Coats.

Cravenette Co., Ltd.

## Sheets and Sheeting.

D. C. Hall & Co., New York.

DENTAL AND  
STAMP RUBBER

## Dental Gum.

American Hard Rubber Co., New York  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Tyer Rubber Co., Andover, Mass.

## Rubber Dam.

Cleveland Rubber Co., Cleveland, O.  
Daval Rubber Co., Providence, R. I.  
Hodgman Rubber Co., New York.  
Seamless Rubber Co., New Haven, Ct.  
Tyer Rubber Co., Andover, Mass.

## Stamp Gum.

Alden Rubber Co., Barborton, Ohio  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Mattson Rubber Co., New York.  
Mechanical Rubber Co., Chicago, Ill.  
N. J. Car Spring & Rubber Co., Jersey  
City, N. J.  
New York Belting & Packing Co., N. Y.  
Seamless Rubber Co., New Haven, Ct.  
Western Rubber Co., Goshen, Ind.

SPORTING  
GOODS

## Foot Balls.

Cleveland Rubber Co., Cleveland, O.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York.

## Golf Balls.

Boston Belting Co., Boston.  
Davidson Rubber Co., Boston.  
B. F. Goodrich Co., Akron, O.  
Whitman & Barnes Mfg. Co., Akron, O.

## Submarine Outfits.

Hodgman Rubber Co., New York.

## SPORTING GOODS.

## Sporting Goods.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Hodgman Rubber Co., New York.  
Seamless Rubber Co., New Haven, Ct.  
Tyer Rubber Co., Andover, Mass.

## Striking Bags.

Pure Gum Specialty Co., Barborton, O.

## ELECTRICAL

## Electrical Supplies.

American Hard Rubber Co., New York  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Lake Shore Rubber Co., Erie, Pa.  
Joseph Stokes Rubber Co., Trenton, N. J.  
Massachusetts Chemical Co., Boston  
Tyer Rubber Co., Andover, Mass.  
Western Rubber Co., Goshen, Ind.

## Friction Tape.

Boston Belting Co., Boston.  
Boston Woven Hose & Rubber Co.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
B. F. Goodrich Rubber Co., Akron, O.  
Massachusetts Chemical Co., Boston.  
Mechanical Rubber Co., Chicago  
Home Rubber Co., Trenton, N. J.  
Revere Rubber Co., Boston  
Whitman & Barnes Mfg. Co., Akron, O.

## Hard Rubber Goods.

American Hard Rubber Co., New York.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Joseph Stokes Rubber Co., Trenton, N. J.

## Insulating Compounds.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Gutta-Percha & Rubber Mfg. Co., To-  
ronto.  
Massachusetts Chemical Co., Boston.

## Insulated Wire and Cables.

National India Rubber Co., Providence.

## Splicing Compound.

Home Rubber Co., Trenton, N. J.  
Western Rubber Co., Goshen, Ind.

## MISCELLANEOUS

## Architect.

Herbert S. Kimball, Boston.

## Belting—Leather.

Graton & Knight Mfg. Co., Boston

## Books for Rubber Men.

India Rubber Publishing Co., N. Y.

## Cement (Rubber).

Boston Belting Co., Boston.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Manhattan Rubber Mfg. Co., New York  
Monarch Rubber Co., Campello, Mass.  
N. J. Car Spring & Rubber Co., Jersey  
City, N. J.  
New York Belting & Packing Co., N. Y.

## Chemical Analyses.

Durand Woodman, Ph D., New York.  
H. L. Terry, Manchester, England.

## Chemical Expert.

Peter F. Austen, New York.

## Investments.

Badger Mexican Plantation Co., Racine,  
Wis.  
Consolidated Rubber Plantations Co. of  
Chico, Boston.  
La Zacaupa Rubber Plantation Co., San  
Francisco.

## Rubber Code

International Cable Directory Co., N. Y.

## Rubber Lands For Sale.

Ashmore Pussat, London, England  
J. J. Fitzgerald, Mexico  
O. H. Harrison, San Francisco.

## Rubber Planting.

Badger Mexican Plantation Co., Racine,  
Wis.  
Consolidated Rubber Plantations Co. of  
Chico, Boston  
La Zacaupa Rubber Plantation Co., San  
Francisco

## Thermometers.

Hohmann & Maurer Mfg. Co., Roches-  
ter, N. Y.  
Helios-Upton Co., Peabody, Mass.



## MACHINERY AND SUPPLIES FOR RUBBER MILLS.

RUBBER  
MACHINERY

## Acid Tanks.

Birmingham Iron Foundry, Derby, Ct.

## Band Cutting Machine.

A. Adamson, Akron, O.

Birmingham Iron Foundry, Derby, Ct.

## Belt Folding Machines.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Belt Slitters.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Belt Stretchers.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Blowers.

B. F. Sturtevant Co., Boston.

## Boilers.

William R. Thropp, Trenton, N. J.

## Boot Trees.

Metal Last &amp; Tree Co., Boston.

## Buckles.

The Weld Mfg. Co., Boston.

## Calenders.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Textile-Finishing Machinery Co., Providence, R. I.

Thos. F. Stevenson, New York.

## Castings.

A. Adamson, Akron, O.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Chucks (Lathe).

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Churns.

American Tool &amp; Machine Co., Boston.

## Cloth Dryers.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Clutches.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Crackers.

Birmingham Iron Foundry, Derby, Ct.

## Devulcanizers.

Birmingham Iron Foundry, Derby, Ct.

Edred W. Clark, Hartford, Ct.

William R. Thropp, Trenton, N. J.

## Dies.

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Doubling Machines.

American Tool &amp; Machine Co., Boston.

## Drying Apparatus.

B. F. Sturtevant Co., Boston.

## Drying Machines.

Birmingham Iron Foundry, Derby, Ct.

Textile-Finishing Machinery Co., Providence, R. I.

American Vacuum Drying Machine Co., New York.

## Dynamoes.

B. F. Sturtevant &amp; Co., Boston.

## Embossing Calenders.

Textile-Finishing Machinery Co., Providence, R. I.

## Electric Power Transmission.

W. B. Smith Whaley &amp; Co., Boston.

Mass.—Columbus, S. C.

## Engines.

B. F. Sturtevant Co., Boston.

William R. Thropp, Trenton, N. J.

## Engraving (Roll).

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Exhaust Fans and Heads.

B. F. Sturtevant Co., Boston.

## Factory Construction.

Herbert S. Kimball, Boston.

## Fans (Electric).

B. F. Sturtevant &amp; Co., Boston.

## Fans (Exhaust and Ventilating).

B. F. Sturtevant &amp; Co., Boston.

## Forges.

B. F. Sturtevant &amp; Co., Boston.

## Gas Exhausters.

B. F. Sturtevant &amp; Co., Boston.

## RUBBER MACHINERY.

## Gearing.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Generating Sets.

B. F. Sturtevant Co., Boston.

## Grinders.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Thos. F. Stevenson, New York.

William R. Thropp, Trenton, N. J.

## Hangers.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Hard Rubber Lathes.

A. Adamson, Akron, Ohio.

## Heating Apparatus.

B. F. Sturtevant Co., Boston.

## Hose Making Machines.

Birmingham Iron Foundry, Derby, Ct.

## Hose Wrapping Machines.

A. Adamson, Akron, Ohio.

Birmingham Iron Foundry, Derby, Ct.

## Hydraulic Accumulators.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Jar Ring Lathes.

A. Adamson, Akron, Ohio.

Birmingham Iron Foundry, Derby, Ct.

William R. Thropp, Trenton, N. J.

## Machinists' Tools.

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Mechanical Draft.

B. F. Sturtevant Co., Boston.

## Mixers.

Birmingham Iron Foundry, Derby, Ct.

Birmingham Iron Foundry, Derby, Ct.

Thos. F. Stevenson, New York.

William R. Thropp, Trenton, N. J.

## Motors (Electric).

B. F. Sturtevant Co., Boston.

## Moulds.

A. Adamson, Akron, Ohio.

Birmingham Iron Foundry, Derby, Ct.

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

Williams Foundry &amp; Machine Co., Akron, O.

## Pillow Blocks.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Post Hangers.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Power Transmission.

W. B. Smith Whaley &amp; Co., Boston.

## Presses (for Rubber Work.)

A. Adamson, Akron, O.

Birmingham Iron Foundry, Derby, Ct.

Boomer &amp; Boschert Press Co., Syracuse, N. Y.

Edred W. Clark, Hartford, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Thos. F. Stevenson, New York.

William R. Thropp, Trenton, N. J.

Williams Foundry &amp; Machine Co., Akron, O.

## Pumps.

Birmingham Iron Foundry, Derby, Ct.

Boomer &amp; Boschert Press Co., Syracuse, N. Y.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Thos. F. Stevenson, New York.

## Racks for Boot and Shoe Cars.

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Reducing Valves.

Mason Regulator Co., Boston.

## Rollers.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Rollers (Hand).

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Second-Hand Machinery.

Philip McGrory, Trenton, N. J.

Thos. F. Stevenson, New York.

## Shafting.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Special Rubber Machinery.

Wellman Sole Cutting Machine Co., Medford, Mass.

## Spreaders.

American Tool &amp; Machine Co., Boston.

Birmingham Iron Foundry, Derby, Ct.

## Steam Traps and Specialties.

Jenkins Bros., New York.

Mason Regulator Co., Boston.

B. F. Sturtevant Co., Boston.

## RUBBER MACHINERY.

## Steel Stamps.

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Stitchers (Hand).

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Thermometers.

Hohmann &amp; Mauer Mfg. Co., Rochester, N. Y.

Hohmann &amp; Mauer Mfg. Co., Rochester, N. Y.

## Tubing Machines.

A. Adamson, Akron, O.

Edred W. Clark, Hartford, Ct.

John Royle &amp; Sons, Paterson, N. J.

Williams Foundry &amp; Machine Co., Akron, O.

## Vacuum Drying Chambers.

American Vacuum Drying Machine Co., New York.

## Varnishing Machines.

Birmingham Iron Foundry, Derby, Ct.

## Ventilating Fans.

B. F. Sturtevant Co., Boston.

## Vulcanizers.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Thos. F. Stevenson, New York.

William R. Thropp, Trenton, N. J.

## Washers.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Thos. F. Stevenson, New York.

William R. Thropp, Trenton, N. J.

## Wrapping Machines.

A. Adamson, Akron, O.

Birmingham Iron Foundry, Derby, Ct.

FACTORY  
SUPPLIES

## Acid (Carbolic).

Barrett Mfg. Co., Philadelphia.

## Antimony, Sulphurets of.

## GOLDEN.

Aetien-Ges. Georg Eggestorff's Salzwerke, Linden, Germany.

Atlas Chemical Co., Newtonville, Mass.

## GOLDEN AND CRIMSON.

Joseph Cantor, New York.

Stamford (Conn.) Rubber Supply Co.

Type &amp; King, London, England.

## Balata.

George A. Alden &amp; Co., Boston.

## Baskets (Carrying).

Morris &amp; Co., Yardville, N. J.

## Benzol.

Barrett Mfg. Co., Philadelphia.

Samuel Cabot, Boston.

## Black Hypo.

Joseph Cantor, New York.

Type &amp; King, London, England.

## Boxes (Wood).

Henry H. Sheep &amp; Co., Philadelphia.

## Carbon Bisulphide.

George W. Speaight, New York.

## Chemicals.

Toch Bros., New York.

## Colors.

Joseph Cantor, New York.

Toch Bros., New York.

Type &amp; King, London, England.

## Crude Rubber.

George A. Alden &amp; Co., Boston.

Otto Meyer, Boston.

Rubber Trading Co., New York-Boston.

## Drills.

J. H. Lane &amp; Co., New York.

## Duck (Cotton).

J. H. Lane &amp; Co., New York.

Morris &amp; Co., Yardville, N. J.

## Fabrics.

Holden, Leonard &amp; Co., Boston.

## Fossil Flour.

Fossil Flour Co., New York.

## Gutta-Percha.

George A. Alden &amp; Co., Boston.

Rubber Trading Co., New York-Boston.

## FACTORY SUPPLIES.

## Hose Bands, Straps, and Menders.

Boston Woven Hose &amp; Rubber Co.

William Yerdon, Fort Plain, N. Y.

## Hose Brands.

Boston Woven Hose &amp; Rubber Co.

H. B. Sherman Mfg. Co., Battle Creek, Mich.

## Hose Pipes, Nozzles, and Couplings.

Boston Woven Hose &amp; Rubber Co.

Eureka Fire Hose Co., New York.

Revere Rubber Co., Boston.

## Infusorial Earth.

Stamford (Conn.) Rubber Supply Co.

## Lampblack.

Samuel Cabot, Boston.

## Lasts (Aluminum).

Metal Last &amp; Tree Co., Boston.

## Lawn-Hose Supporters.

C. J. Bailey &amp; Co., Boston.

## Lead—Blue.

Picher Lead Co., Chicago, Ill.

## Lead—Sublimed White.

Picher Lead Co., Chicago, Ill.

## Manufacturers' Supplies.

Rubber Trading Co., New York-Boston.

Stamford (Conn.) Rubber Supply Co.

## Naphtha.

Barrett Mfg. Co., Philadelphia.

## Oils.

Akron Commercial Co., Akron, O.

## Paris White and Whiting.

H. F. Taintor Mfg. Co., New York.

## Pitch.

E. B. Weed &amp; Co., Fayetteville, N. C.

## Reclaimed Rubber.

Bloomingdale (N. J.) Soft Rubber Co.

New Century Rubber Co., Philadelphia.

New Jersey Rubber Co., Lambertville, N. J.

Pequanoc Rubber Co., Butler, N. J.

Philadelphia Rubber Wks., Philadelphia.

Raymond Rubber Co., Titusville, N. J.

Jos. Stokes Rubber Co., Trenton, N. J.

U. S. Rubber Reclaiming Wks., N. Y.

## AGENTS AND DEALERS.

G. Brice, Paris, France.

W. C. Coleman, Boston, Mass.

Philip McGrory, Trenton, N. J.

H. P. Moorhouse, Paris, France.

Rubber Trading Co., New York-Boston.

Wm. Somerville's Sons, Liverpool, Eng.

## Rubber Waste.

Wm. H. Cummings &amp; Sons, New York.

W. C. Coleman, Boston, Mass.

I. H. Stedman &amp; Co., Inc., Boston.

United States Waste Rubber Co., Brockton, Mass.

## Scrap Rubber.

Bers &amp; Co., Philadelphia.

W. C. Coleman Co., New York.

Wm. H. Cummings &amp; Sons, New York.

Theodore Hoffeller &amp; Co., Buffalo, N. Y.

Philip McGrory, Trenton, N. J.

Wm. Somerville's Sons, New York.

J. H. Stedman &amp; Co., Inc., Boston.

Feist Strauss, Frankfurt o/M., Germany.



# THE REPUBLIC RUBBER CO.

MAIN OFFICE AND FACTORY  
YOUNGSTOWN, OHIO

BRANCH STORE  
47 WARREN STREET  
NEW YORK

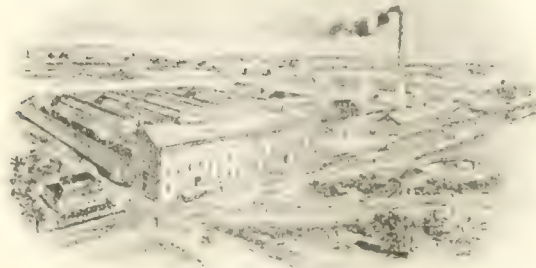
PITTSBURG  
106 MARKET ST.

CHICAGO  
MARKET AND RANDOLPH STS.

MANUFACTURERS  
EXCLUSIVELY

**HIGH GRADE  
MECHANICAL  
RUBBER GOODS**

Our Policy is to Maintain Quality  
under all conditions



MOST MODERN  
MECHANICAL

**RUBBER GOODS**

FACTORY IN THE  
WORLD

Equipped Throughout with  
ELECTRICALLY OPERATED  
MACHINERY

PATENTEES AND SOLE MANUFACTURERS

## SEARCHLIGHT PACKING CROSS ARM Wire Insertion Copper Joint TUBULAR GASKET

*Mention the India Rubber World when you write*

## Invest in Shares of La Zacualpa Rubber Plantation.



OUR TWELVE YEAR OLD TREES PRODUCING RUBBER.

Interest payable January and July from the actual production and sale of rubber from cultivated trees.

This PLANTATION is acknowledged to be the one company that has done something and actually solved the problem of rubber cultivation.

It is highly endorsed from every source and its shares afford an investment not to be overlooked.

LA ZACUALPA RUBBER PLANTATION,

No. 713 MARKET STREET,

SAN FRANCISCO, CALIFORNIA.

EASTERN REPRESENTATIVES:

**BROOKS BROTHERS & COMPANY,**

No. 35 WALL STREET,

NEW YORK.

*Mention the India Rubber World when you write*



# REVERE RUBBER COMPANY.

Manufacturers of a  
HIGH CLASS of

## MECHANICAL RUBBER GOODS.

### HOME OFFICE:

77 Bedford and 72 Kingston Streets,  
BOSTON, MASSACHUSETTS.

### BRANCHES:

NEW YORK, N. Y., 59 Reade Street.  
PITTSBURG, PA., 2-8 Wood Street  
CHICAGO, ILL., 168 Lake Street.  
MINNEAPOLIS, MINN., 210 Nicollet Avenue.  
NEW ORLEANS, LA., 410 Carondelet Street.  
SAN FRANCISCO, CAL., 527 Market Street.

### FACTORIES:

CHELSEA, MASSACHUSETTS.

*Mention the India Rubber World when you write*

# HIGH GRADE RUBBER GOODS

(MADE IN CANADA)

**BELTING  
PACKINGS  
VALVES  
VALVE SHEET  
TUBING  
and  
GASKETS**

**RUBBER HOSE**

—FOR

**WATER  
SUCTION  
STEAM  
AIR  
Fire Protection  
ACIDS  
BREWERS  
Pneumatic Tools**

**SATISFACTORY  
.. IN ..  
SERVICE**



**SUPERIOR  
.. IN ..  
QUALITY**



Sole Manufacturers of the celebrated "MALTESE CROSS" and "LION" Brands Rubbers.  
The best fitting, best wearing and most stylish rubber footwear on the market.

SPECIAL ATTENTION GIVEN TO EXPORT ORDERS



## The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Mention The India Rubber World when you write.

Head Office Warerooms—45-49 Front St., W., TORONTO, CANADA.

= = THE = =

# GRANBY RUBBER CO.

HIGHEST GRADE

## RUBBER BOOTS, SHOES, AND CLOTHING.

### Factories: GRANBY, QUEBEC.

S. H. C. MINER, President,  
J. H. McKECHNIE, Gen'l Mgr.

Mention The India Rubber World when you write.

### BOUND VOLUMES

- - OF - -

### THE INDIA RUBBER WORLD

Make a desirable addition to the office equipment or the private library of any man who is interested in any branch of the rubber business.

The twelve monthly numbers from October, 1901, to September, 1902, inclusive, have been bound in half Morocco, forming a handsome and durable volume.

**Price, \$5.00, Prepaid.**

Back volumes at the same price.

**THE INDIA RUBBER PUBLISHING CO.,**  
No. 150 Nassau Street, New York.

# GORHAM RUBBER COMPANY,

Manufacturers and Distributors for the Pacific Coast and the Orient

OF RUBBER GOODS OF EVERY DESCRIPTION.

MAIN OFFICE: **SAN FRANCISCO, CALIF.** BRANCH: **SEATTLE, WASHINGTON.**

Mention The India Rubber World when you write.

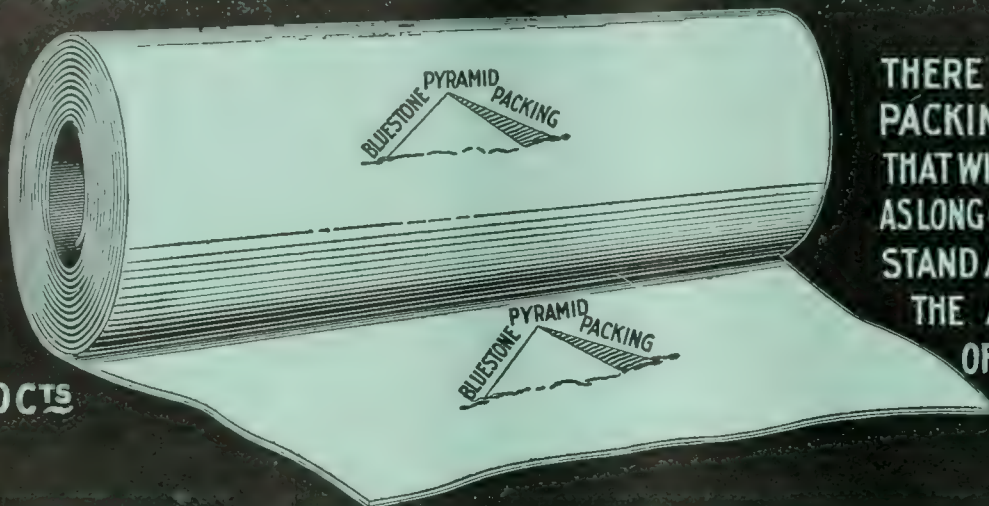


# PYRAMID BRAND BLUESTONE HIGH PRESSURE PACKING

FOR STEAM &  
HOT OR COLD  
WATER &  
AND AIR &&

PACKS EQUALLY  
WELL FOR ALL

PRICE PER LB. 80 CTS



THERE IS NO  
PACKING MADE  
THAT WILL LAST  
AS LONG OR WITH-  
STAND AS WELL  
THE ACTION  
OF STEAM  
HEAT

## THE GUTTA PERCHA AND RUBBER MANUFACTURING CO.

NEW YORK  
126-128 DUANE ST.

CHICAGO  
96-98 LAKE ST.

SAN FRANCISCO  
30-32 FREMONT ST.

BOSTON  
71 PEARL ST.

PHILADELPHIA, PA.  
221 CHESTNUT ST.

**SIX YEARS YOUNG  
AND STILL GROWING**

Growing in Quality  
of Product

Growing in Sales  
Growing in Popularity  
Not made by a TRUST

HOOD RUBBER COMPANY  
BOSTON

1856 — FORTY-SEVEN YEARS — 1903  
EXPERIENCE

**TYRIAN**  
**DRUGGISTS'**  
**RUBBER GOODS**  
OF ALL DESCRIPTIONS.

RUBBER MOULD WORK A SPECIALTY.

**TYER RUBBER COMPANY,**  
Andover, Mass.



The BEST BUCKLES for ARCTICS  
ARE MADE BY  
THE WELD MFG. CO.,  
41 Lincoln Street, - - Boston.

"Cravenette"  
RAIN COATS

Must have this Circular  
Trade Mark stamped in  
inside of coat.



# INDIA RUBBER WORLD

CAOUTCHOUC  
HEVEA BRASILIENSIS

DICHOPSIS GUTTA

GUTTA-PERCHA

Edited by HENRY C. PEARSON—Offices, No. 150 Nassau Street, NEW YORK.

Vol. XXVIII. No. 4.

JULY 1, 1903.

35 Cents a Copy.  
\$3.00 Per Year.

## THE ALDEN RUBBER CO., BARBERTON RUBBER WORKS, MANUFACTURERS OF RUBBER GOODS.

The  
MASTER KEY  
Rubber Tiling.

Noiseless,  
Non Conducting.  
Non Slipping.

The ideal floor for  
Offices, Banks, Vesti-  
bules, Elevators and  
especially for places  
where electrical cur-  
rents abound.

Beautiful Color Effects.  
Designs Furnished.



THIS TRADE MARK GUARANTEES FULL VALUE.

AKRON, OHIO and BARBERTON, OHIO, U.S.A.  
Akron Office, Arcade Block—Main Office and Works at Barberton

LONG DISTANCE TEL., AKRON EXCHANGE NO. 999.  
CABLE ADDRESS "ARCO AKRON."

BICYCLE,  
AUTOMOBILE  
AND  
VEHICLE  
TIRES,  
HOSE,  
PACKING,  
VALVES.  
MOLDED  
GOODS,  
FRUIT JAR  
RINGS.  
WHITE  
TUBING.

Mention the India Rubber World when you write

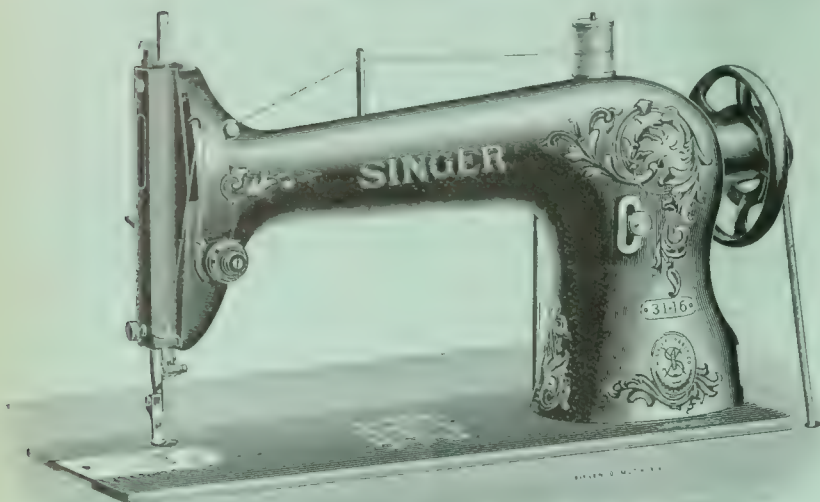
**LAMPBLACKS especially for RUBBER MANUFACTURE.**  
SAMUEL CABOT, BOSTON, MASS



# SINGER SEWING MACHINES

**P**erfectly perform all **R**ubber processes in **S**titching

FROM THE THINNEST GOSSAMER TO THE HEAVIEST BELTING.



Machine No. 31-16 for general work. Specially designed for stitching Rubber. Fastest Lock-stitch machine in the market. Widest range of work. Greatest durability and least repair expense.

## MACHINES SHOWN IN PRACTICAL OPERATION AT

NEW YORK—Broadway and Prince Street.  
 BOSTON—128-132 Essex Street.  
 PHILADELPHIA—1210 Chestnut Street.  
 BALTIMORE—11 North Charles Street.  
 CHICAGO—260-262 Fifth Avenue.  
 CINCINNATI—115 West Third Street.  
 ST. LOUIS—1124 Olive Street.  
 TROY, N. Y.—251 River Street.  
 INDIANAPOLIS, IND.—126 W. Washington Street.  
 ST. PAUL, MINN.—402 Jackson Street.  
 CLEVELAND—52 Water Street.  
 KANSAS CITY, MO.—1209 Grand Avenue.

## THE SINGER MANUFACTURING CO.

Salesrooms in Every City.

*Mention The India Rubber World when you write.*

# CONTINENTAL TYRES, CONTINENTAL MECHANICAL RUBBER GOODS.

CONTINENTAL CAOUTCHOUC & GUTTAPERCHA CO.,  
Hanover, Germany.

*Mention The India Rubber World when you write.*



## For General Compounding

"M.R." makes a perfect union with rubber. Prevents blistering, and the harsher action of free Sulphur. Absolutely acid proof. Has been used regularly by Rubber Manufacturers for the past three years.

GEO. A. ALDEN & CO., Boston, Mass.

# Forsyth Combination Metal Insertion Packing



Patented April 11, 1899.

will satisfactorily withstand the heat of high pressure steam. It is a high grade rubber packing with one or more plies of pliable sheet metal insertion. A successful packing that satisfies where other packings fail.

## CAUTION.

As the exclusive manufacturers of sheet metal insertion rubber packing, under a patent issued April 11, 1899, to James Bennett Forsyth, we caution all parties against making, selling or using any rubber packing with sheet metal insertion that in any way infringes said patent.

**Our line of Packings for all purposes is most complete.** We solicit your inquiries...

**BELTING,  
HOSE of all kinds.  
GASKETS, VALVES,  
DECKLE STRAPS.**



The Trade Mark of Excellence.

**RUBBER COVERED  
ROLLERS.  
MATS, MATTING, TUBING,  
Etc.**

# BOSTON BELTING CO.

JAMES BENNETT FORSYTH, Genl. Mgr.

**Original Manufacturers of VULCANIZED RUBBER GOODS.**

Boston,	New York,	Buffalo,	Chicago,	St. Louis,	Milwaukee,	St. Paul,	Seattle,
Philadelphia,	Baltimore,	Atlanta,	Mobile,	New Orleans,	Memphis,	Cincinnati,	
Pittsburgh,	Detroit,	Cleveland,	Indianapolis,	Kansas City,	San Francisco,	Portland.	

*Mention The India Rubber World when you write.*





GOLD MEDAL AWARDED  
at  
PAN-AMERICAN EXPOSITION,  
1901.

## EUREKA FIRE HOSE CO.,

13 BARCLAY ST., NEW YORK.

MANUFACTURERS OF THE CELEBRATED BRANDS

“RED CROSS” (One Ply) “PARAGON” (Two Ply) “EUREKA” (Three Ply)

“U. S.” Brand Rubber Lined Cotton Fire Hose

Adopted as the Standard Factory Fire Hose by the Associated Factory Mutual Fire Insurance Companies, for Factory and Mill Fire Protection.

COTTON and LINEN HOSE of all grades, both plain and rubber-lined. All sizes.

These Goods are especially adapted for use in Woollen, Cotton, Silk, Print, Knit Goods and Carpet Mills, Dyeing and Bleaching establishments, Pulp and Paper Mills, Breweries and Distilleries, Sugar Refineries, Ice and Refrigerating Machinery, Chemical Works, Tanneries, etc. *Samples and full information given on application.*

## COTTON HOSE,

We Spin, Weave, and Line Our Own Goods.

## GARDEN HOSE,

New Lines—New Methods.

## BELTING and PACKING.

Empire Rubber Mfg. Co.,

NEW YORK.

CHICAGO.

BOSTON.

ST. LOUIS, MO.

Factories: TRENTON, N. J.

*Mention the India Rubber World when you write.*

For HIGH GRADE  
**Pneumatic Bicycle Tires**  
and **Solid Carriage Tires**

Write to

**KOKOMO RUBBER CO.**

KOKOMO, INDIANA.

*Mention The India Rubber World when you write.*

**Lake Shore Rubber Co.**

Manufacture Mechanical Rubber Goods,

**HOSE, BELTING, PACKING, VALVES,  
GASKETS, ELECTRICAL TAPE, OIL  
WELL SUPPLIES, Etc.**

WRITE FOR PRICES AND SAMPLES.

Office and Works, ERIE, PA.

*Mention The India Rubber World when you write.*

# BOSTON WOVEN HOSE & RUBBER CO.

EXECUTIVE OFFICES: CAMBRIDGE, MASS.

FACTORIES: CAMBRIDGE AND PLYMOUTH

## COMFORT RUBBER HEELS

WHOLE AND HALF

### WEAR WELL

They are of a high grade rubber

### LOOK WELL

They are black to match the shoe

### FEEL WELL

They are springy and comfortable

### SELL WELL

They are the best:—price right—handsome package



Inquiries solicited from parties having their own moulds or who wish heels of any special design made for them

BRANCHES: BOSTON, NEW YORK, PHILADELPHIA, PITTSBURG, CLEVELAND, BUFFALO, CHICAGO, ST. LOUIS, SAN FRANCISCO

# BOSTON WOVEN HOSE & RUBBER CO.

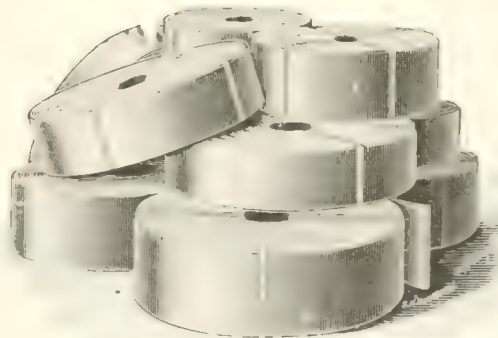
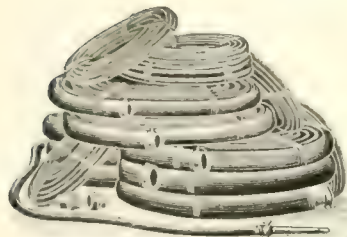
*Mention The India Rubber World when you write*

"ALL GOODS BEARING OUR BRAND ARE FULLY GUARANTEED."

## HIGH CLASS RUBBER GOODS.

### NEW PLANT

The most improved machinery,  
Up-to-date methods coupled with  
experienced workmen and capable  
supervision enable us to meet  
any competitor and give us  
an advantage over many



### We Make

Hose, Belting, Packing, Valves, Gaskets, Mats,  
Matting, Linen and Cotton Hose,

and many specialties as well as they can be made when the ability to turn out first grade goods is united with the willingness to do so.



Our "Nubian" Packing is adapted for high or low pressure. It is guaranteed to stand higher temperature than any other packing, and will retain its strength and pliability under conditions that destroy other packings. Flat and Tubular Gaskets made from "Nubian" Stock.

## Voorhees Rubber Manufacturing Co.

BRANCH STORE  
175-177 Lake St., Chicago.

18-40 BOSTWICK AVENUE,  
JERSEY CITY, NEW JERSEY.

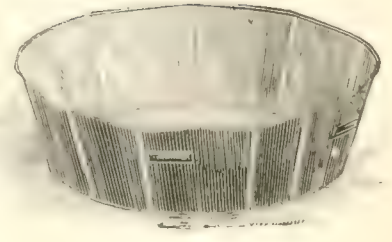
*Mention The India Rubber World when you write.*





# ***SUMMER***

# ***COMFORT***



Shower Baths, Air Pillows, Boat Cushions, Life Preservers,  
Camp Beds and Blankets, Fishing Coats,  
and kindred articles are now in demand.

We make them all, and many other things as well.

**HODGMAN RUBBER COMPANY,**  
806-808 BROADWAY, Opposite Eleventh Street, = = NEW YORK.

Factories: TUCKAHOE, N. Y., MT. VERNON, N. Y.

*Mention The India Rubber World when you write.*

**BEFORE YOU PLACE YOUR CONTRACT**

**....FOR....**

**G A R D E N   H O S E**

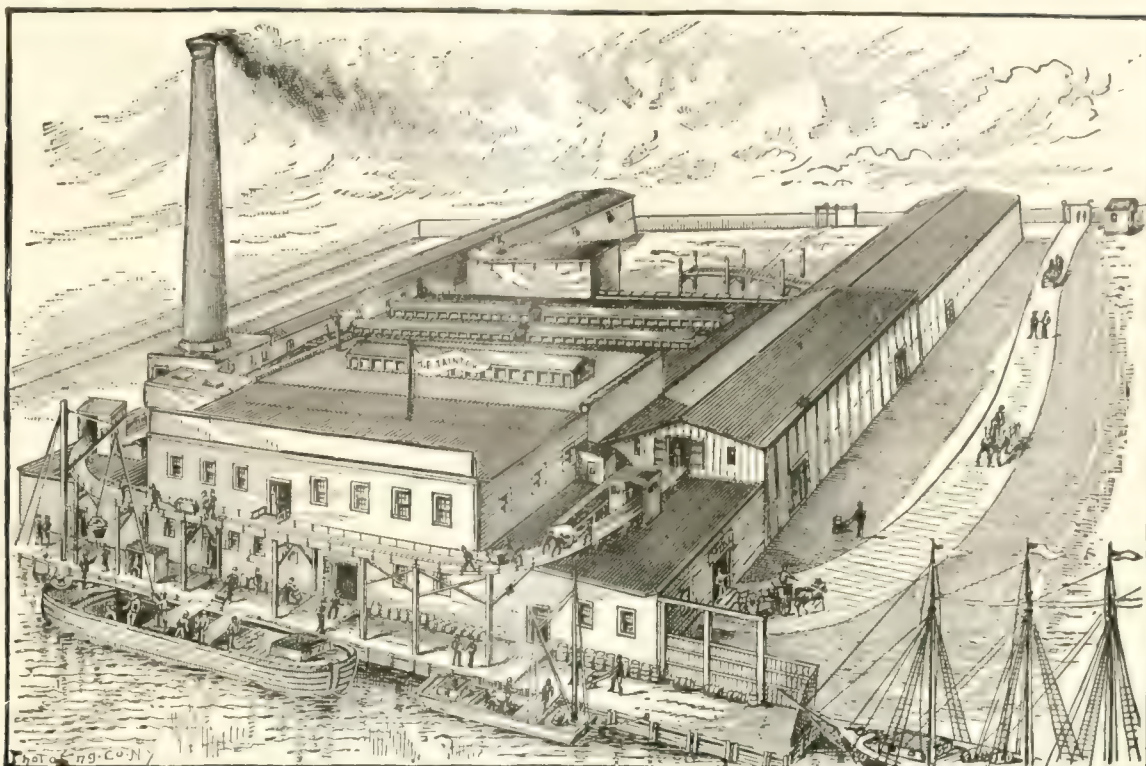
**WRITE US FOR SAMPLES AND PRICES.**

**TEN DISTINCT GRADES, EVERY ONE A WINNER.**

**CRESCENT BELTING & PACKING Co.**

**TRENTON, N. J.**

*Mention The India Rubber World when you write.*



## The H. F. Taintor Mfg. Co.

are the largest manufacturers of Whiting and English Cliffstone Paris White in this country.

All grades of Whiting prepared especially for use of Rubber Manufacturers, finely ground and bolted and *very* dry.

The "Westminster" brand of English Cliffstone Paris White is the finest made in the world, and is particularly suited to manufacturers of fine Rubber goods and specialties.

Samples can be had by mail.

Address

**No. 101 Beekman St.,  
New York City.**

*Mention The India Rubber World when you write.*



FACTORIES AT MATTEAWAN, DUTCHESS CO., N. Y.

# NEW YORK RUBBER COMPANY.

INCORPORATED 1851.

Manufacturers of

**BELTING,  
HOSE,  
PACKING,  
ETC.**

**OF SUPERIOR QUALITIES.**

WAREHOUSE AND OFFICE:

**84 AND 86 READE, COR. OF CHURCH STREET, NEW YORK.**

Address P. O. Box 1160.

**HIGH GRADE  
Lawn and Garden Hose  
A SPECIALTY.**

**HIGH GRADE  
Lawn and Garden Hose  
A SPECIALTY.**

*Mention The India Rubber World when you write.*

## BELTING



FOR  
Transmitting  
Elevating  
Conveying

## JAR RINGS WASHERS BANDS PACKING



FOR  
Steam  
Water  
Oil  
Acids  
Air, Etc.

## GRAIN DRILL TUBES MOLDED WORK CUSHION TIRES BABY CAB TIRES VALVES



## HOSE

FOR  
Steam  
Water  
Oil  
Acids  
Suction  
Air, Etc.

**THE WHITMAN & BARNES MFG. CO.**

Kansas City  
New York  
Chicago

RUBBER WORKS,

AKRON, OHIO

London

St. Catharines  
Cincinnati  
Syracuse

*Mention The India Rubber World when you write.*

It is Oil Proof,  
It is Acid Proof.



*It is perfection for a Steam Joint.*

*Try It.*

*You will have the proof.*



# NEW JERSEY CAR SPRING & RUBBER CO.

General Offices and Works, - - - Jersey City, N. J.  
 New York, - - - - - 10 Barclay St.  
 Cleveland, - - - - - 190 Seneca St.

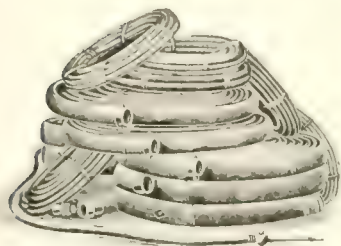
CHICAGO, ILL.

Distributing Agents, W. D. Allen Mfg. Co.,  
 151 Lake St.

MANUFACTURERS OF

## High Grade Rubber Goods

"Our name and brand a guarantee of quality."



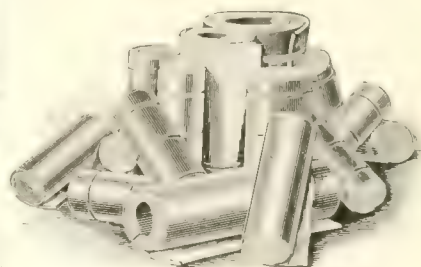
Air Brake Hose Rubber Belting  
 Steam Hose Steam Packing  
 Fire Hose Mats and Matting  
 Water Hose Valves, etc.

"Diamondine" Red Sheet Packing

"Hemisphere" Rubber Matting

Rubber Lined Cotton Fire Hose

Mechanical Rubber Goods for all purposes.



J. J. FIELDS, President.  
 J. J. FIELDS, JR., Vice-Pres't.

*Mention The India Rubber World when you write.*

GEO. B. DICKERSON, Sec'y.  
 TOWNSEND COCKS, Treasurer.

ESTABLISHED 1859.

## THE LIVERPOOL RUBBER COMPANY, Ltd. LIVERPOOL, ENGLAND.



*The highest grade of Rubber Boots and Shoes, "Liver" and "Ideal" Canvas Shoes, etc., etc.*

*High grade Mechanical, Engineering and Mill Work, Railway Springs, Valves, Buffers, Sheets, Insertion, Rings, Bladders, Deckles, Printers' Blankets, Hose, Belting, Mats, Packing, etc., etc.*

*Cycle and Carriage Tires, "Lockfast" pneumatic, single tube, cushion and solid.*

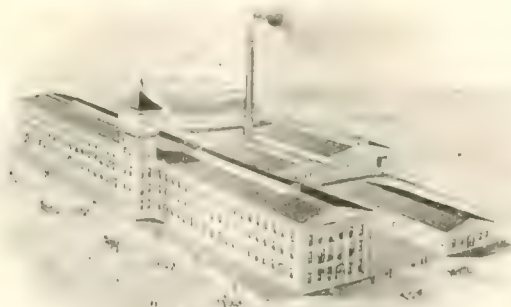
*India Rubber Thread.*

CHIEF OFFICE: 292 VAUXHALL RD., LIVERPOOL,  
 and at 34 Aldermanbury, London, E. C.,  
 20 Rue des Marais, Paris,  
 333 Kent St., Sydney, New South Wales.

Factories: Vauxhall Road, and Walton, Liverpool.

*Mention the India Rubber World when you write.*

# THE EUREKA RUBBER MFG. CO. OF TRENTON, NEW JERSEY.



Manufacturers of

**Rubber Carriage Drill and Duck, Cotton Rubber Lined Hose, and Mechanical Rubber Goods of Every Description.**

Factory strictly modern in design, with machinery of the latest and most approved description throughout, using only first class raw material, and producing nothing but reliable grades.

We solicit inquiries from the trade direct, or through our Branch Stores or Salesmen. We promise prompt attention to same.

FACTORY - - - TRENTON, N. J.

On the main line Pennsylvania R. R.

Branch Stores: CHICAGO:  
248 Randolph Street.

NEW YORK:  
55 Warren Street.

BOSTON:  
276 Devonshire Street.

*Mention The India Rubber World when you write.*

## BELTING

## BELTING

## BELTING

# BELTING

FOR EVERY POSSIBLE USE

## COMBINATION RUBBER AND BELTING CO.

Main Office and Works, BLOOMFIELD, Essex Co., New Jersey, U. S. A.

SALESROOMS

NEW YORK:  
157 CEDAR ST.

PHILADELPHIA:  
43 N. SEVENTH ST.

CHICAGO:  
198 RANDOLPH ST.

*Mention The India Rubber World when you write.*



# THE MANHATTAN RUBBER MFG. CO.

CABLE ADDRESS:  
MIALOGIA

18 VESEY STREET, NEW YORK.

7260 CORTLANDT  
7261 CORTLANDT  
7262 CORTLANDT

BELTING  
HOSE  
PACKING  
TUBING  
MATTING  
ROLLS



GASKETS  
TILING  
MOULDED  
GOODS  
IN EVERY  
VARIETY

—MAKERS OF—

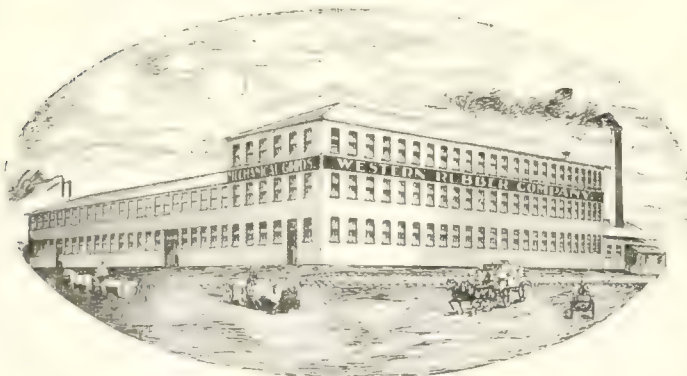
## Mechanical Rubber Goods.

Factories: PASSAIC, N. J., on D. L. & W. R. R.

*Mention The India Rubber World when you write.*

### Western Rubber Company,

GOSHEN, - - - INDIANA.



...Manufacturers of...

Tires, Inner Tubes,  
Splicing Compound,  
Packing,

Rubber Horse Shoe Pads,  
Rubber Heels,  
Matting, Mats,  
Patented Specialties,  
Mould Work,

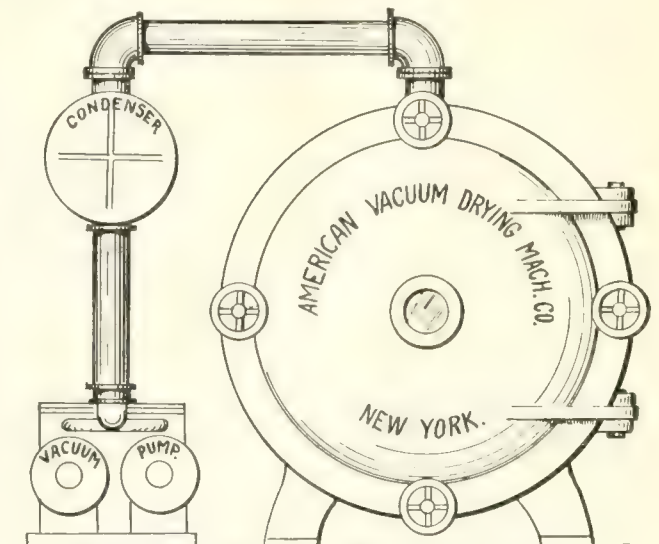
Plumbers' Supplies,  
Stamp Makers' Supplies  
Electrical Supplies,  
Sundries, Etc.

*Mention The India Rubber World when you write*

### VACUUM DRYING MACHINES.

Sheet and Shoddy Rubber and Chemicals can be Dried in a Few Hours at Low Temperature. No Oxidation, Burning or Melting of the Material.

Large Drying Capacity of Several Charges per Day. Exhaust Steam or Hot Water for Heating. No other Drying System so Economical in the Saving of Time, Space, Steam, and of Capital invested, owing to the rapidity of this drying process.



AMERICAN VACUUM DRYING MACHINE CO.,

WORKS: NEW HAMBURGH, N. Y.

Office: 120 LIBERTY ST., N. Y. CITY.

WARNING: INFRINGEMENTS ON OUR PATENTS WILL BE PROSECUTED.

*Mention The India Rubber World when you write*

New York Philadelphia Trenton, N. J. Chicago St. Louis Pittsburgh

35 WARREN ST.

208 N. 4th ST.

MAIN OFFICE

21 So. CANAL ST. WAINRIGHT BLDG.

326 4th AVE.

FOR

# GARDEN HOSE

For the Season of 1903

—ADDRESS—

TRENTON RUBBER MFG. CO.

Trenton, N. J.

*We would be glad to send Samples and Quote.*

*Mention The India Rubber World when you write.*



ESTABLISHED 1874.

## DAVOL RUBBER COMPANY

MANUFACTURERS OF  
FINE RUBBER GOODS  
IN SOFT AND HARD RUBBER

PROVIDENCE, RHODE ISLAND, U.S.A.

*Mention The India Rubber World when you write.*

## THE FAULTLESS RUBBER CO.

AKRON, OHIO, U. S. A.

MANUFACTURERS OF

High Grade Seamless and  
Seamed Rubber Goods  
and Specialties.

CORRESPONDENCE SOLICITED.

*Mention The India Rubber World when you write.*

## YATMAN RUBBER CO.,

MOULDED SPECIALTIES

IN SOFT RUBBER.

ERASIVE RUBBER.

OFFICE AND FACTORY:

No. 608 Passaic Avenue,

HARRISON, N. J.

TELEPHONE:

523 HARRISON.

WRITE FOR ESTIMATES.

*Mention The India Rubber World when you write.*

## SYRINGE BOXES

OF WHITE WOOD, BASS, OAK, ASH, &amp;c.

FINE WORK. LOW PRICES. PROMPT SHIPMENT.

*Estimates and Samples Furnished on Application.*

ALSO ANY OTHER KIND OF

## FANCY WOOD BOXES MADE TO ORDER.

Extensive Facilities enable us to Guarantee Satisfaction.

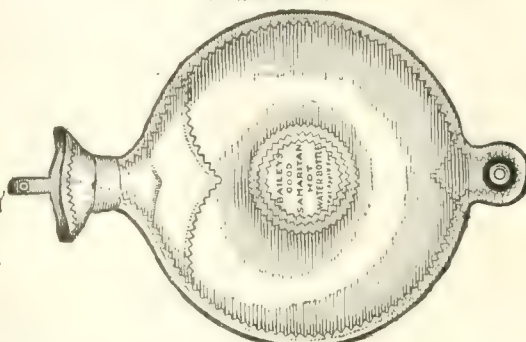
Henry H. Sheip Mfg. Co.

1702-10 RANDOLPH ST., - PHILADELPHIA. PA.

*Mention The India Rubber World when you write.*

## Bailey's "GOOD SAMARITAN" Hot Water Bottle.

(TRADE MARK)

IT  
FITS  
EVERY  
SPOT.SOFT  
AS A  
PIL-  
LOW.

MADE hollow disk in shape it adjusts itself to all parts of the body, and lays on it without holding or strapping. Being only about half the thickness of the ordinary water bottle, when filled, it is easy to place under the patient and comfortable to lie on.



For pain in the ear, teeth or face, the hollow disk gives to the affected parts hot air or steaming by placing in it a sponge wet with spirits or water.



Buttoning the two ends of the bottle together makes a perfect heater for the feet or to stand next to the body.

Only the best of material and workmanship are used in its construction, and every bottle is guaranteed.

5 inch diameter.....	Face Size, \$ 7.50 Doz.
8 inch diameter.....	10.00 "
10 inch diameter.....	12.00 "
11 inch diameter.....	15.00 "

MANUFACTURED BY

DAVOL RUBBER CO., Providence, R. I. TYER RUBBER CO., Andover, Mass.  
 THE B. F. GOODRICH CO., Akron, O. THE SEAMLESS RUBBER CO., New Haven.  
 HODGMAN RUBBER CO., New York. HARDMAN RUBBER CO., Belleville, N. J.  
 IDEAL RUBBER CO., Brooklyn, N. Y. MECHANICAL RUBBER CO., Cleveland.  
 C. J. BAILEY & CO., Patentees, No. 22 Boylston Street, Boston.

## THE PURE GUM SPECIALTY CO.,

BARBERTON, OHIO.

MANUFACTURERS OF

TUBING (All kinds), PURE GUM GLOVES (Any weight).

STEAM CURED GLOVES, HOUSEHOLD GLOVES

(Any color), FINGER COTS (All kinds),

FACE MASKS, ICE BAGS, ICE

CAPS, SLEEVES, NIPPLES,

BEAUTY BRUSHES.

Moulded Goods A Specialty.

RUBBER SPECIALTIES OF ALL KINDS

ALL GOODS GUARANTEED.

*Mention The India Rubber World when you write.*

# AMERICAN HARD RUBBER CO.,

THE INDIA RUBBER COMB CO.  
THE BUTLER HARD RUBBER CO.  
THE GOODRICH HARD RUBBER CO.

9-13 MERCER STREET, NEW YORK, U.S.A.

MANUFACTURERS OF

COMBS, SYRINGES, CROWN WATER BOTTLES,  
DRUGGISTS' & STATIONERS' SUNDRIES.

EVERY DESCRIPTION OF HARD RUBBER GOODS.

*Mention The India Rubber World when you write.*

DR. H. TRAUN & SONS, Formerly

**Harburg Rubber Comb Co.**

HARBURG AND HAMBURG, GERMANY.

Manufacturers of  
all kinds of

**HARD  
RUBBER  
GOODS.**



SOLE MAKERS OF THE CELEBRATED

Olive Doré, Helios, Reform and Sawing Man

BRANDS OF COMBS.

HEADQUARTERS FOR THE UNITED STATES:

**SCHRADER & EHLERS,**

335 BROADWAY, NEW YORK.

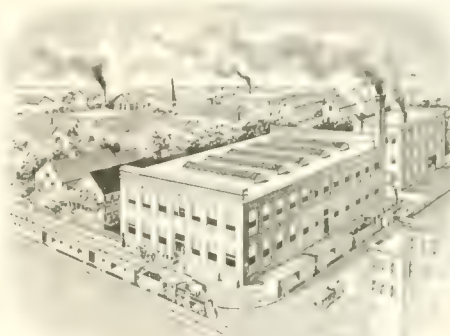
*Mention the India Rubber World when you write.*

MOLD WORK A SPECIALTY.

## SPONGES

We are the first in  
the United States to  
make Rubber  
Sponges. Call for  
samples and prices.

**CHICAGO TIRE &  
RUBBER CO.**



329-331 West Kinzie Street, - - CHICAGO, ILL.

*Mention The India Rubber World when you write.*

**We Manufacture Our Products by Mechanical Means.**

## THE BLOOMINGDALE SOFT RUBBER WORKS,

Manufacturers of

THE FINEST GRADES OF

# Reclaimed and Devulcanized Rubber

FOR

## Manufacturing and Mechanical Purposes,

### BLOOMINGDALE, N. J.

*Mention The India Rubber World when you write.*



In Every  
Essential  
Requirement

BANIGAN  
RUBBERS

Are Unexcelled



SEND YOUR ORDERS TO —

Edward R. Rice, Buffalo.

C. L. Weaver & Co., Boston.

Edward R. Rice, Chicago.

American Hand Sewed Co., Omaha.

Linthicum Rubber Co., Baltimore.

*Mention The India Rubber World when you write.*

# One of the Popular Candee Lasts



*Candee Royal Toe—Top View*

Candee goods have enjoyed a great revival of popularity this past season.

For two excellent reasons:

One, the particularly good quality of our last winter's output (which 1903 will fully maintain).

And the second reason lies in the full line of brand new lasts introduced last season and being added to constantly.

Here is one of the popular lasts—the Royal Toe—top and sole view, made in Men's Overs, Sandals and Beacon Slippers. You will note the fine swing—not so pronounced as to be bulldoggish, and yet swing enough to fit the prevailing leather shoe.

Another extremely popular last is our London Toe—a little straighter and a shade narrower than the Royal.

Our 1903 catalogue has 24 cuts, showing 12 different styles of toes made in the different sizes. Your jobber will mail you a copy, or we will if you will drop us a postal.



*Candee Royal Toe—Sole View*

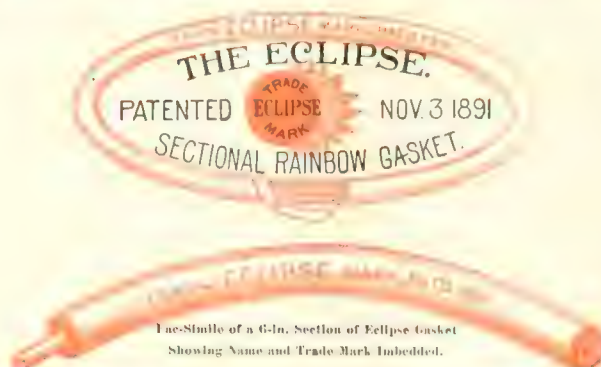
## CANDEE RUBBER CO.

NEW HAVEN, CONN.



# The Eclipse Sectional Rainbow Gasket

$\frac{3}{8}$  in. }  
 $\frac{1}{2}$  in. } For Hand Holes.  
 $\frac{5}{8}$  in. }



$\frac{3}{4}$  in. }  
 $\frac{7}{8}$  in. } For Extra Large Joints.  
 1 in. }

The Eclipse Gasket is red in color, and composed of the celebrated Rainbow Packing Compound. It will not harden under any degree of heat, or blow out under the highest pressure, and can be taken out and repeatedly replaced. Joints can be made in from three to five minutes.

## The Peerless Spiral Piston and Valve Rod Packing.

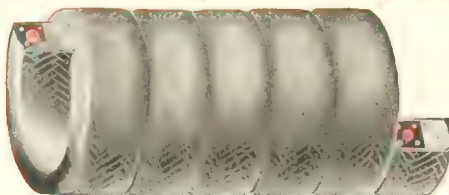
\*\*\*\*\*  
 It will hold 400 pounds of  
 steam.  
 Once Tried Always Used.



\*\*\*\*\*  
 Will run twelve months in  
 high speed engines.

## Success Semi-Metallic, Diagonal Expansion Spiral Packing, Rainbow Core.

For Steam,  
 Low or High Pressure.



For Hot or Cold Water  
 and Ammonia Machines.

Patented October 31, 1899.

## HOSE, BELTING, PACKING, VALVES and RUBBER TILING.

Largest manufacturers in the world of fine mechanical Rubber Goods.  
 Send for Catalogue.

MANUFACTURED PATENTED AND COPYRIGHTED EXCLUSIVELY BY

# The Peerless Rubber Manufacturing Co.

16 WARREN STREET, NEW YORK.

16-24 Woodward Ave., Detroit, Mich.    200-210 S. Water St., Chicago, Ill.    17-23 Beale St., and 18-24 Main St., San Francisco, Cal.  
 Corner Common and Tchoupitoulas Sts., New Orleans, La.    634 Smithfield St., Pittsburg, Pa.  
 1221-1223 Union Ave., Kansas City, Mo.    38 South Meridan St., Indianapolis, Ind.

Mention The India Rubber World when you write.



Published on the 1st of each Month by

## THE INDIA RUBBER PUBLISHING CO.

No. 150 NASSAU ST., NEW YORK.

HENRY C. PEARSON,  
EDITOR.HAWTHORNE HILL,  
ASSOCIATE.

Vol. 28.

JULY 1, 1903.

No. 4

**SUBSCRIPTIONS:** \$3.00 per year, \$1.75 for six months, postpaid, for the United States and Canada. Foreign countries, same price. Special Rates for Clubs of five, ten or more subscribers.

**ADVERTISING:** Rates will be made known on application.

**REMITTANCES:** Should always be made by bank draft, Post Office Orders or Express Money orders on New York, payable to THE INDIA RUBBER PUBLISHING COMPANY. Remittances for foreign subscriptions should be sent by International Post order, payable as above.

**DISCONTINUANCES:** Yearly orders for subscriptions and advertising are regarded as permanent, and after the first twelve months they will be discontinued only at the request of the subscriber or advertiser. Bills are rendered promptly at the beginning of each period, and thereby our patrons have due notice of continuance.

COPYRIGHT, 1902, BY

THE INDIA RUBBER PUBLISHING CO.

Entered at New York Post Office as mail matter of the second-class.

## TABLE OF CONTENTS.

	PAGE.
<b>Editorial:</b>	
Mr. Chamberlain's Proposals.....	327
Rubber and the Congo System.....	328
Minor Editorial.....	328
<b>Rubber Planting on the Isthmus of Tehuantepec—III.....The Editor</b>	<b>331</b>
[Clearing and Burning by Contract. Gathering and Testing Castor for Seed. Visit to Plantation "Rubio." On Horseback Through Miles of Rubber. The Tapping Problem.]	
<b>Notes on Rubber Exploitation.....</b>	<b>337</b>
[Sale of a Straits Settlements Rubber Estate. Rubber Exports from Ceylon. Yield of the Para Rubber Tree. Large Profits in African Rubber Trading. Planting Companies in Mexico, Cuba, and Ceylon]	
<b>The India-Rubber Trade in Great Britain.....</b>	<b>339</b>
[Congo State Affairs. Motor and Tire Notes. Mechanical Rubber Prices. Rubber Trade Journals. Card Clothing Trade. Rubber in a New Book. Advertising by Rubber Men.]	
<b>The Rubber Stamp Trade (Illustrated).....</b>	<b>341</b>
<b>Adulteration of Rubber (Illustrated).....</b>	<b>342</b>
<b>India Rubber Goods in Commerce.....</b>	<b>343</b>
<b>The Congo Controversy.....</b>	<b>344</b>
<b>Recent Rubber Patents (American, British, German).....</b>	<b>345</b>
<b>New Goods and Specialties in Rubber (Illustrated).....</b>	<b>347</b>
[The Fawkes Airless Tire. The MacMahon Solid Rubber Vehicle Tire. Means of Attaching Tire to Rim. Hart's Rubber Sponge. Bath Brush.]	
<b>The Textile Goods Market.....</b>	<b>348</b>
<b>Miscellaneous:</b>	
Obituary.....	329
New Trade Publications.....	329
Chicago Bolivian Rubber Co. (Illustrated).....	330
Rubber Suggested for a Bridge Floor.....	330
Some Wants of the Rubber Trade.....	330
Value to Germany of Export Trade.....	342
The Commercial Pacific Cable.....	343
Another Rubber District Exhausted.....	343
International Cable Directory.....	348
<b>News of the American Rubber Trade.....</b>	<b>352</b>
The Trade in Akron.....	349
The Trade in Trenton.....	350
The Trade in Kansas City.....	351
<b>Review of the Crude Rubber Market.....</b>	<b>356</b>

## MR. CHAMBERLAIN'S PROPOSALS.

THE proposal by the British colonial secretary of the principle of preferential tariffs as between the different parts of the empire, if given practical effect, would prove of more consequence than any economic program that could be adopted by any other country, on account of Great Britain's preëminence to-day in the world's commerce. Indeed, the abolition of the principle of free trade in the country of its origin would mark the beginning of a readjustment of the relations to each other of the commercial powers.

But Mr. Chamberlain's scheme remains to be adopted, even on paper. And something more than statutory enactment would be needed to give it effect. The real problem before this brilliant English statesman is not to gain the support of his government for his policy, or even to win the adherence of the voters. The question is whether, under any circumstances, the thing which he aims at can be done—that is, can the British dominions beyond the seas replace the rest of the world in supplying the markets of the mother country with food and raw materials?

To illustrate the problem we may observe that, though Canada already admits British manufactures under a preferential tariff, while high duties are imposed by the United States, Great Britain continues to buy wheat in the latter country, as if Canada had not large areas suited for wheat growing. The Canadians feel that, in view of their loyalty to the empire, some reciprocal sentiment should lead the mother country to adopt a policy helpful to their colony. The fact that the United States so largely supply England with wheat to day means that, on an even basis, Canada cannot compete in that market. Hence the demand for a discriminating tariff in favor of the Canadian farmer. The result would be a higher cost of bread in England for a long time to come, with no probability that the increased price would soon largely develop wheat growing in Canada.

Before Canada can supply Great Britain with wheat there must be a vast addition to her agricultural population; great areas now forest covered must be settled and brought under cultivation—a task in itself for a generation, before the new districts could do more than supply themselves with food. Canada has good wheat lands, but wheat farming is not the end of existence, and millions of people cannot be expected to make their homes in a given district merely to produce wheat for the Liverpool markets, even if thereby the ties that bind an empire together are strengthened and the ambitions of a colonial secretary furthered. If the conditions of life in rural Canada otherwise do not appeal to people, they may prefer, in order to live elsewhere, to do something else than grow wheat. Besides, their position would be precarious if dependent upon the maintenance of a food tax in England, which might be swept away any day by a change of sentiment among the voters.

Neither Mr. Chamberlain nor all England can change the location of wheat production on the world's surface as figures are moved on a chess board. England has tried long and in vain to transfer the sources of her cotton sup-



plies to India, but that country is less suited to cotton than the southern United States; the Straits Settlements may yet supply English factories with India-rubber, because better suited than the Amazon valley as a home for the white races; but the time has not arrived when by a mere act of parliament she can make Canada and Australia her chief purveyors of food, for the reasons given above and others. For these reasons the people of the United States have given little concern to the proposed new British tariff scheme.

It may be added that the pending tariff legislation in Germany will succeed, if at all, through the support of the farming element there, which is assured protection no less than the manufacturers. But if, as the ultimate result, dearer food is threatened, the whole tariff proposal may fall to the ground. The first requisite of every country is food—at the lowest possible cost—and the most favorable circumstance for the United States, bearing upon their future as an industrial power, is that the country is dependent upon no other for food, but always has a surplus for export.

#### RUBBER AND THE CONGO SYSTEM.

THE king of the Belgians was reported lately to be about to visit London, on account of the action of the British parliament calling for a conference of the Powers in relation to his administration of the Congo Free State. King Leopold in London may be able to influence the tenor of the note which King Edward's government is about to send to the various parties to the treaty upon which the Congo state is based. Or later, wherever he may be, he may be able to offer a defense satisfactory to the Powers. But apart from considerations of civilization and of free trade on the Congo, the question is involved of the future supply of rubber—for rubber really is the *raison d'être* of the Congo Free State.

It will be remembered that the state, having declared the whole rubber region "public domain," undertakes to regulate the collection of rubber therein. The people of the country, having had a "civilized" government placed over them, must now pay taxes, and as they have no money and produce nothing else that the state can use, they are required to gather rubber to satisfy the tax collector. Besides, the state has granted concessions of large areas to trading companies on the basis of receiving half the profits. The native is not allowed to tap rubber vines except to pay his taxes, or for sale to the trading companies. In either event he is working for the state; the price for his rubber is fixed, and fixed very low, because there can be no competitive buyers. The blacks have shown so little inclination to work under these conditions that the state has been obliged to provide a large armed force to give them an incentive—an armed force, by the way, composed always of natives of some other tribe than the workers to be persuaded, unfriendly to them, and glad to become their oppressors. It is by such severe measures that the output of rubber from the Congo Free State has been increased within a few years from *nil* to more than is pro-

duced in any other country except Brazil, whose rubber trade has existed for eighty years. Another explanation of the rapid growth of the Congo trade is that under the monopoly system such enormous profits have been made as to spur the controlling spirits to their utmost efforts.

The rubber consumer may or may not be concerned about the cruelty of this system, forced upon helpless and unoffending natives; he may be indifferent to who profits from the initial handling of the rubber. He cannot be indifferent long, however, to the exhaustion of rubber which the Congo system is bringing about. The natives do not gather rubber long in one spot; the same vine does not long survive the heavy tapping necessary to meet the combined requirements of a state hungry for taxes and European companies hungry for dividends. Already the dividends earned have repaid many times the original investment of capital, and when no more rubber can be found the companies can well afford to retire from the field, leaving only the rubber trade to suffer.

The state, it is true, has given orders to guard against exhausting the rubber, but this very action is proof that the native supply is being killed off. The law requires that for every 15 pounds of rubber exported a new rubber vine shall be planted. But the law does not require that these vines shall be forced to grow, or that anybody shall stay and care for them 15 or 20 years, while this slow growing species is becoming productive. Really very little is known yet about the practicability of cultivating the *Landolphia*, and of all projects yet suggested for rubber cultivation, this compulsory wholesale planting on the unsalubrious Congo is the least promising. The probability is that, when the wild rubber is all gone, the planted slips or seedlings will be speedily deserted.

The one hopeful feature of the case is that the Congo system has not spread to other rubber regions. French Congo—across the great river from King Leopold's domain—was parcelled out among *concessionaire* companies after the great profits of the Belgian companies became known, but no such profits were realized there, and many of the concessions have been abandoned. The result might have been different if armed rifles had been used to persuade the French Congo natives to gather rubber, and, when it was gathered, to accept a penny a pound for it. Fortunately for the rubber industry, the forests there remain largely unexplored and the same is still true of some other parts of Africa. It is better for the world that this rubber should thus remain in reserve, against the time when the Congo Free State shall no longer yield rubber. Then, when the craze produced by yearly dividends from rubber of 100 to 500 per cent. is over, and the world is forced to look elsewhere for new supplies, perhaps the new fields will be opened under conditions that will insure a permanent yield, instead of the wasteful system which now feeds the Antwerp market.

THERE IS NO NEED FOR WORRY OVER the future of the rubber supply. When all the known sources have become exhausted rubber will still be as plentiful as it is now. Science is progressive, and before the limit of its development is reached,

doubtless it will be found that caoutchouc is the basis of all matter. The world no longer is dependent for rubber upon the trees of the Amazon valley, for quite as much is now obtained from vines and even from underground creepers in Africa. But there is a promise that our manufacturers may not have to send abroad at all for their raw material. Listen to Mr. William F. Blair, who is vouched for by the *New York Times* as an authority, "who spends several months each year in the Orinoco basin looking after the affairs of American rubber firms." He finds time to remark: "It is not generally known that a product may be extracted from corn cobs which, by mixture with other chemicals, gives very good rubber." Did you know that corn cobs were chemicals? Think how much has been lost by the fact not being known generally; thousands of millions of corn cobs wasted that might have been converted into very good rubber. It is true Mr. Blair says: "But repeated experiments demonstrated that it cost so much to make that it was useless to compete with the South American article." Never mind that; think of the repeated experiments that failed to discourage Charles Goodyear. He kept on experimenting. It is enough to know that corn cobs contain very good rubber. A cheap way of extracting it is sure to come. Next we expect that, by mixing worn out street paving blocks with other chemicals, more very good rubber may be made. But don't neglect the corn cobs.

THE OPENING OF THE NEW PACIFIC CABLE, scheduled to occur within the next few days, will score a new triumph for American enterprise, even if the cable itself was manufactured in a foreign country. No other submarine cable of equal magnitude was ever projected and carried to completion by purely private enterprise—it was practically the work of one man—and none other was completed in so short a time from the date of the original undertaking. It may not at once begin to yield a profitable return, but there can be no doubt the new line will contribute to an important degree to the development of commercial interests on the Pacific, "the ocean of the future." Among the immediate results will be the competitive influence of the new line tending to reduce cable tolls to the Far West, as Americans now consider Asia. A word must also be said of the results of Mr. Mackay's enterprise in proving the greater efficiency of private enterprise in an undertaking of this kind than of governmental initiative and control.

THE NEWS WAS CABLED ACROSS THE ATLANTIC during the month, of the discovery of a new source of rubber, and the journals which headlined the report "It May Revolutionize the World's Rubber Industry" took their cue from the wording of the despatch. It happens that the plants referred to, which yield rubber underground, are those illustrated in the May issue of this paper—not new, and likely soon to become exterminated. The days are over for sensational "finds" of rubber, except on paper.

THE HIGH PRICE OF COTTON, which threatens just now to affect the rubber industry to an inconvenient degree, is wholly a result of speculation, which has been conducted of late on a more extensive scale than was ever before known. The *New York Journal of Commerce* points out that one effect of such cotton "corners" will be to encourage the efforts now making in many countries to render the world less dependent upon the United States for raw cotton, the export of which has added so much to our national wealth. As giving point to the *Journal's* suggestion, we may add that Great Britain last year imported 355,000,000 pounds of cotton from Egypt and considerable

quantities from Brazil and India. Already numerous cotton mills exist in the latter two countries, consuming a large local production of the raw material. Meanwhile Germany and other powers are striving to develop the growth of cotton in their African colonies, with encouraging results to date. Ultimately the rubber manufacturers will not be restricted to the use of American cottons.

#### OBITUARY.

F. O. KETTERLING, who died in Chicago on May 21, had been the manager since November, 1892, of the Chicago selling agency of the Lycoming Rubber Co. (Williamsport, Pa.) He was born in 1858 at Monroe, Illinois, and graduated from the academy at that place, after which he entered business in Chicago. In December, 1901, The Standard Rubber Shoe Co. was incorporated, with Mr. Ketterling as president and manager, taking on the sale in Chicago not only of the Lycoming, but of the Meyer and Jersey brands of footwear made by the United States Rubber Co. The funeral services, on May 23, were conducted by Lincoln Park commandery, Knights Templar. At a special meeting of the Shoe and Leather Association of Chicago, on May 26, a suitable memorial was adopted. Mr. Ketterling is survived by a widow and a son and by three brothers and three sisters.

—Francis H. Holton, Jr., died of tuberculosis at his home, in Akron, Ohio, on June 8, at the age of 47. He was for several years connected with the factory of The B. F. Goodrich Co., and later with the Faultless Rubber Co. Funeral services were held at Akron on the day following, and the interment was in Greenwood cemetery, Brooklyn, New York. Mrs. Holton and two children survive. Mr. Holton's father, Francis H. Holton, who is widely known in the rubber industry, has been engaged actively in it for most of the time since 1854.

#### NEW TRADE PUBLICATIONS.

THE B. F. GOODRICH CO. (Akron, Ohio) issue an illustrated catalogue of Newer Surgical Rubber Specialties, representing the product of their "surgical department," established about a year ago in recognition of the increasing uses for rubber goods by the medical profession. This is not a mere catalogue of "druggists' sundries" in the ordinary sense, but much more. While including the older lines of druggists' goods, this catalogue is devoted chiefly to special products, perfected with the coöperation of members of the medical profession, a number of whom are named in the catalogue in connection with the articles suggested by them to meet wants which have arisen in their practice. The catalogue thus contains a number of articles not to be found in any other trade list, many of them being of a character not produced, to our knowledge, in any other rubber factory, which makes the book a distinct contribution to the literature of rubber. [5¾" × 8½". 47 pages.]

G & J TIRE CO. (Indianapolis, Indiana) issue a booklet descriptive of G & J Tires, for automobiles, motor cycles, and driving wagons, of the detachable type, fitted to their standard rims, with prices; also the G & J motor valves—all satisfactorily illustrated. [5" × 7". 12 pages.]—They issue also a special Telegraph Code, designed to save no little expense in telegraphic orders for the company's tires and supplies. [4" × 9". 12 pages.]

No small amount of rubber is called for in the manufacture annually in the United States, of several millions of baseballs. The base of each one is a small solid ball of rubber, which is wrapped with woolen yarn, and then covered with leather.



## CHICAGO-BOLIVIAN RUBBER CO.

THE Chicago-Bolivian Rubber Co., incorporated June 18, 1903, under the laws of Maine, with \$1,500,000 capital, has been formed in the interests of the old company of the same name, incorporated under the laws of West Virginia. THE INDIA RUBBER WORLD is informed: "The new company will take over the Bolivian Rubber Estates and the business of the old company. The total capitalization remains the same—\$1,500,000—but the common stock is reduced to \$1,000,000, and the preferred (7 per cent. cumulative) is increased to \$500,000. This has been done to provide additional working capital with which to handle the increasing business of the company, and to promote and further more approved methods of river navigation and transportation across the Andes generally."

The Chicago-Bolivian Rubber Co. began operations by acquiring and consolidating several rubber concessions on the Mapiri, Caca, and Béni rivers, in Bolivia, from which the shipment of rubber had already been started. This business has been extended by the company. The manager of their estates is George Merritt, who was interested in the development of some of the original concessions. The fiscal offices of the company in South America are at Sorata, Bolivia, located in the mountain pass through which communication is maintained between the rubber estates and Mollendo, on the Pacific coast.



VIEW OF SORATA, BOLIVIA.

The illustration herewith presents a view of Sorata—a town with a higher elevation than any other in South America—and it may be added that the building immediately behind the plaza which occupies the center of the picture is occupied by the Chicago-Bolivian Rubber Co. for office purposes and as quarters for the office force. The principal office of the company is at No. 170 Summer street, Boston, in charge of Arthur W. Stedman, general manager.

## "MANJAK" AS A SUBSTITUTE FOR RUBBER.

THE commercial agent for Canada at Port of Spain, Trinidad, reports a rapid development in the mining of "Manjak" on that island. Up to very recently it was believed that manjak was applicable only to the manufacture of high class varnishes, and the demand, like the supply, was limited. Since the discovery of extensive mines of this article in Trinidad, however, and the certainty of a regular and large supply at a moderate price, other uses appear to have been discovered for it and a single order for 5000 tons, to be taken within a year, is reported. This order, it is understood, comes from a firm who

believe that in manjak there will be found a marketable substitute for India-rubber, and who have erected a special plant for its treatment. While not so stated, it is to be inferred that the shipments are to be made to the United States. The agent writes that none of the material as yet has gone to Canada, though he commends it to manufacturers there interested in the production of insulating materials.

The asphaltum commercially known as manjak has been imported into the United States hitherto from Barbadoes. William H. Scheel (New York) reports that it is "largely used by manufacturers of varnishes. The goods are sold at from \$45 to \$65 per ton of 2000 pounds, according to quality, and usually come to this market packed in bags or barrels. The superior grade is brilliant and runs pretty free of sand or dirt."

## RUBBER SUGGESTED FOR A BRIDGE FLOOR.

SOME of the New York newspapers of June 10 contained a statement to the effect that Bridge Commissioner Lindenthal, with the intention of making the new bridge over the East river as noiseless and dry as possible, had ordered "rubber dust" to be placed under the creosinate wooden paving blocks that are to constitute the roadway. As this plan would be a radical innovation in bridge building, an INDIA RUBBER WORLD representative called upon the bridge commissioner for further information. Mr. Lindenthal pronounced the report erroneous, and declared that he had not thought of such a thing. He had seen the statement, but averred that there was nothing in it.

The idea of a rubber pavement or roadway, is not new, by the way. Captain T. Blashill, in an article on roadmaking in the "Encyclopedia Britannica" (Vol. XXXII), says: "For a perfectly noiseless pavement, such as is specially required where a carriage entrance under bedrooms is used by night, no substance is equal to India-rubber. For this purpose it is made in inch sheets about 3 feet wide and as long as the width of the roadway; it is fixed over concrete and secured by iron clips. This arrangement carries the whole of the passenger traffic to St. Pancras station, London, and also a considerable amount of traffic under the Euston Square Station Hotel."

## SOME WANTS OF THE RUBBER TRADE.

[291] FROM a Western jobbing house: "We are desirous of learning a process by which patches can be vulcanized on miscellaneous rubber articles by the use of acid."

[292] From Connecticut has been received an inquiry for a formula for quick curing stock for repairing tires.

[293] "I shall esteem it a favor if you will send me a list of concerns manufacturing vulcanite emery wheels."

[294] "Where can we obtain 'Glugloss Gelatine,' mentioned in Mr. Pearson's book, 'Crude Rubber and Compounding Ingredients'?"

[295] From a rubber jobbing house: "Can you inform us who makes rubber dice cups?"

[296] An inquirer writes: "I am desirous of getting a small vulcanizer for experimental purposes, and trust that you may be able to refer me to the party who will have just what I want."

[297] From a factory producing hard rubber rods and tubes, in electrical work, comes a request for the addresses of parties in New York or its vicinity who are prepared to fraze and polish the same, if sent to them in the rough.

[298] We have had several inquiries from persons desiring such tins are used in collecting rubber sap in Brazil.

## RUBBER PLANTING ON THE ISTHMUS OF TEHUANTEPEC.

*As Seen by the Editor of "The India Rubber World."*

## THIRD LETTER.

Clearing and Burning by Contract.—Danger from Fires.—Clearing *Castilloa* Seed.—Testing Seed.—Costly Seed Failures.—Track Walking under Difficulties.—The "Boston Rubber Tree"—Morning Glory Vines.—Arrival at Santa Lucrétia.—A Condensed Milk Lesson.—Coatzacoalcos.—Sleeping in the "Bad Cage."—Up the Usapinapa and Chichigapa Rivers.—Plantation "Rubio."—A Fine "Bodega."—On Horseback Through Miles of Rubber.—The Tapping Problem.

THE planters in the Trinidad river district were so well informed, and so ready to impart their knowledge to one interested, that I felt as we journeyed back to "La Ventura" that I was getting a pretty good grasp on the rubber planting situation. I had learned, too, specifically, what clearing,

burning, planting, lining, staking, and cleaning involved. Indeed, as luck would have it, I ran across some of the men who take the contracts for clearing at various times during my journey. In certain cases, the planters clear their own land. They prefer, however, to let it out by contract as it costs less, and is one less burden for them to bear. In Vera Cruz clearing is usually done between the middle of February and the last of April. The contractor brings a large

force of men who fell everything, the axemen handling the big trees, and the many *machete* men lopping branches, cutting vines, and arranging all for a good burn. If the work is well done, and at the right time, the mass of fallen litter gets at least a month of hot dry weather, which dries out the fallen timber almost beyond belief, and gives weeds and climbers no chance to spring up. This part of the work is very important, because if a poor burn takes place, it involves the cutting and piling up of half burned tree trunks, and a second burning, which is costly. It is figured that in this work twenty-five men will clear about half an acre a day.

During the burning the planters are always on the watch to keep the fire from spreading, not into the virgin forest, but into adjacent plantings. The danger from fires carried by subterranean roots which may smoulder for days, and then burst

into flame, is no slight one. Indeed, several cases have occurred where the fire has spread into cleared land, and destroyed many hundreds of valuable rubber trees. To cite one case in point, it might be well to recall the loss of the Varney Rubber Co., who had a plantation on the Tehuantepec railway and who lost 250 acres of two year old trees by fire in the dry season, said to have been started by sparks from a locomotive.

After the burn is finished the ground is full of roots, is open and spongy, and in just the right condition for the reception of seed. If this seed is put in so as to catch the early rain, it gets a good start before the torrential rains come, when the soil is pounded down hard. This is the reason that seed planting the second year is not apt to prosper, and why it is better

then to transplant from a well equipped nursery. The earliest bloom of the *Castilloa* appears about the first of March, the seed ripening within sixty days, and is usually all gone thirty days later. The seeds are usually gathered as soon as ripe, and it is often a race between the planters and parrots to see which will get the most, as the latter are very fond of them. The seed is secured by knocking the cones off the branches of the trees with long poles. The cones are then put in water, and allow-



INTERIOR CAMP NO. 4, ON PLANTATION "RUBIO."

ed to stand over night, when the gluten surrounding the seed slightly ferments. The mass is then placed in a sieve, and the pulp easily washed away. Then after a final washing, the floaters or unvitalized seeds are skimmed off, and the residue are dried on mats in the shade. As the vitality of the *Castilloa* seed is very slight, it is necessary to plant within a week or two at the longest. It might be well to note here that Mr. Harvey kept some seeds alive by packing in charcoal, and that they germinated when planted several months later, but no one but a trained horticulturist would be likely to be successful with such an experiment. With regard to the planting of the seed, it is well to remember that the first rains are often times followed by a week or two of dry weather. It is therefore best to wait until at least four inches of rain have fallen, that is, when planting in heavy soil, and to have a re-





WATER FRONT AT MANITITLAN.

[Copyrighted Photo by C. B. Waite, Mexico.]



HOTEL PALOMARES, MANITITLAN.

[Copyrighted Photo by C. B. Waite, Mexico.]

serve of seed saved for failures, either from drought, washouts, or lack of germination.

ON one of the plantations I was shown the result of a very interesting experiment, which was designed to show why of two seeds, planted near each other in apparently equally favorable positions, one produced a vigorous tree, while the other produced a weakling. To determine this, the planter selected three sizes of seeds and planted them under equal conditions, supposing naturally that the largest seed would produce the most vigorous plant. He learned, however, that size had nothing to do with it, as in some cases the smallest seeds produced gave the best result. The real difference seems to be, therefore, in the inherent vitality of the seed itself. There are a great many ideas regarding the best way of planting the *Castilloa*, and there is no doubt but different methods are adapted for difference of situations. I am firmly convinced, however, that in the region I visited, by far the best method of planting is at the stake, backed up by a small nursery, in order that the failures may be made good. Any one who has seen two year old seedlings as against two year old nursery plants will, I think, agree with me.

Again and again was it impressed upon me how alert and careful the planter must be in preparing his ground, and especially in getting his seed at the right time, and getting it into the ground so that it shall have the proper start. And their knowledge has come through acknowledged failures. One good friend of mine bought a ton of seed at \$1 a pound, and was unlucky enough to have it all spoil. Another cleared hundreds of acres for which he failed to get any seed, the clearing having to lie over until the year following, and these are but two of many instances which would discourage any but the most determined men. But such happenings do not reach the same man twice.

ON our arrival at "La Ventura," mine host found a letter from a large planter down near Coatzacoalcos, inviting him to visit his place, and as that was just the direction in which I had planned to go, I resolved to

embrace the chance to go with the best of guides. It therefore happened that early morning found us in the saddle, bound for Santa Rosa, but not over the trail by which I had come in. This time it was over a clear path, through the planted rubber trees, dipping down into the forest, and over a road with a soft carpet of matted leaves two or three feet deep, and as springy as if made of rubber—a new trail, and all on "La Ventura" land. On reaching the railroad we sent the horses back, and after waiting a while, hoping for a train which might, or might not, run that day, we started to walk towards Santa Lucretia, where the new road joins the National Tehuantepec railroad. Walking a railroad track under any circumstances is hard work, but that track was certainly not made for tramps or actors. It had been hastily laid in the rainy season, so as to make connection at Santa Lucretia, and infrequent and slow though the trains were, it was already a godsend to the planters and travelers. We knew also that as soon as the dry season came it would be straightened, ballasted, and put in shape. But its prospective virtues did not make the walking any easier. It was not altogether because the sleepers were laid at uneven distances, and often not spiked to the rails, or that the grass had grown up and covered both with a slippery tangle, nor was it the clayey mud that often rose flush with the rail tops, but it was the combination of all these that tired us out ere we had gone very far. Still, we had no thought of backing out, and so plodded steadily on, our feet clogged with mud, our packs on our shoulders, wondering

if luck would send the construction train to our assistance. Not that the trip was without its compensations. The day was gorgeous, and my companion, botanist and enthusiast as he is, talked of the trees and plants in a way that would make one forget any sort of hardship.

SPEAKING of the forest, one of the most conspicuous trees is a sort of a banyan, which has all the idiosyncrasies of that tree of many trunks, and grows to a great size. It is a species of *Ficus* which has not as yet been identified, but is probably the *Ficus Benjamina*. On tapping it gives a

#### COMPARISON OF SEEDS.



"RUBIO." INTERIOR OF TEMPORARY OFFICE.





PLANTATION "RUBIO" TRACT FOR PLANTING, AFTER THE "BURN."

certain amount of *latex*, but of a very sticky nature, and probably of no value. There are also a great many mahogany trees, but in the former lumbering operations the larger of them have been cut out, and while there are many of them that would square perhaps twelve or fourteen inches, there are not so many which would go up to eighteen inches, which used to be the old time test. At the same time, mahogany is so plentiful that many of the bridges across the streams on the forest trails are made of squared mahogany logs, one or two of them laid side by side, and mahogany furniture is very common in the planters' home furnishings. There is also considerable *lignum vitae*, and on the track we were then walking, it was often used for ties. Spanish cedar is also quite abundant, and is one of the valuable woods.

In regard to trees, the old resident, and sometimes the semi-old one, is very apt to point out the rubber tree in its natural state as you ride with him through the forest, and if he knows anything about rubber, he never makes any mistake. If he doesn't, he is very apt to point out a tree which the planters call the "Boston rubber tree," and which the natives call the "chankarro." It really looks very much like the *Castilloa*, but is apt to prove a surprise to those who try to tap it. The trunk is only a hollow shell, and the interior is invariably filled with what are known as the fire ants, of whose presence the tapper is instantly apprised when his *machete* cuts through the thin film of bark.

There are also many beautiful trees, such as the "royal"

and other palms, and an infinite variety of vines and climbers. Perhaps the most abundant vine down in that part of the country is the morning glory, which is not an annual as it is with us, but is a perennial, and which swarms up over the tree trunks, and covers acres of forest with its dense foliage, and its beautiful bloom. To those who insist that the trunk of a rubber tree should not be exposed to the sun, I would suggest that they allow the morning glory vines to cover it, as they will shade it perfectly, and do the tree no harm. At the same time, I am personally convinced that the tree needs no such shading.

I must not forget one vine that we noted on our journey, as it had a blossom that for size put in the shade anything that I had ever seen. I do not recall the botanical name, but it is of the family that produces what is known as the "dutchman's pipe." We saw several of them, and finally secured a blossom.

In size it was as large as an old fashioned Shaker bonnet, and must have weighed a pound and a half. It was not pretty, except in a bizarre tropical sense, but was simply a type of what the richest of soil, plenty of moisture, and constant warmth can produce.

There seems to be few poisonous plants, the most common being a luxuriant shrub with a crown of handsome white flowers, which acts like a gigantic nettle, instantly paralyzing the hand that grasped it. This is very plentiful, and its Spanish name means "the evil woman plant."

None of the forest through which we passed would be called primeval, as there were no trees that were over 150 years old. Just why this is so,



"RUBIO" LAND PLANTED RUBBER.





"RUBIO" BRICK AND TILE FACTORY

none can tell, but that the land was once densely inhabited is proved by bits of pottery, arrow heads, etc., that are to be found on every plantation, and in the railroad cuttings in great abundance. And that reminds me that at "La Junta" Mr. Shufeldt gave me a hideously interesting little clay idol which he found in a vegetable garden there. I unwittingly left it on the table in my room at "La Ventura," and I wish to warn the genial householder that I am coming down next year purposely to recover it.

MEANWHILE, hot, perspiring, but cheerful, we were plodding on towards the Tehuantepec railway that was miles and miles in the distance. Finally, however, we reached Sanborn, soon to be a metropolis, but when we arrived simply a camp where men were grading, felling the forest, and getting ready to put up a modern railway station, which is to have a telegraph and telephone office, and all sorts of modern conveniences. This place, by the way, is about eight miles from La Junta, and will be its railway station, and is named after one of the prominent officials, who, besides his interest in rubber planting, has purchased a big block of land, and is going into lumbering, brick making, and a variety of industries that will be of marked benefit to that section. At Sanborn we struck good luck, for we had not been there five minutes when a locomotive whistled, and soon the construction train crawled into sight, and, boarding the flat car in front of the engine, to keep from being set afire by sparks from the wood burning engine, we continued our journey.

Arriving at Santa Lucretia in due time, we disembarked and wended our way to the town proper, which consists of a hotel on stilts, a railway station, and a few native huts as a back-ground. With a railway camp close by, and with the many Americans constantly going and coming, the town really presented a busy scene. The hotel is run by Major Elliott, a powerful man with a military bearing, very friendly to those who behave, but a trifle stern with the semi-worthless natives that are ever to be found at a railroad end. We had an excellent dinner, partly of native food, and partly canned goods from the States.

SPEAKING of the latter, American manufacturers do not seem to realize that one of the best supply markets in the world is to be found among the planters and small hotel men in the tropics. Some do, of course, and some of the great merchants and mail order houses are cultivating the field most industriously and profitably, but most do not. A case in point of this lack of appreciation came to my attention in this journey. A planter who is

so thoroughly American that he had far rather buy of his own countrymen than of any other, used a great deal of condensed milk. That which he bought of English or Swiss make was white and sweet, while the American brand, that he wanted to buy, soon became in that hot, moist climate, of a chocolate brown color, and quite offensive. In the goodness of his heart he wrote the manufacturers, telling them the whole story, and instead of being thanked, received a most insulting letter from an officer of the company. He wrote again, not in his former vein, but stating a few salient facts, and ended by remarking that as the English had for 150 years been successfully supplying tropical markets, they would probably keep on until Americans had the sense to study their methods.

Just before the train arrived, our party was reinforced by the arrival of Mr. R. O. Price, the general manager of "Solo Suchil," who had been apprised to be on the lookout for us, and who told us that a steam launch would be waiting for us at the end of the railway journey to take us up the Coatzacoalcos river to Minatitlan and later to the plantations on that and tributary streams. At length our train came and we were on our way. The much vaunted National Tehuantepec road is no doubt an engineering triumph, but what with earthquakes, morasses, and streams that are one day riverlets and the next raging torrents, it is not yet equal in equipment or service to a one horse road in the Far West. The trains run every other day, and get in on time very rarely.

We finally arrived at Coatzacoalcos, the Atlantic terminus, two hours late, and there were welcomed by Mr. A. B. Luther, the *gerante general* of "Plantacion Rubio." Here two more Americans joined the party and, boarding the steam launch, we steamed up to Minatitlan, a quaint old Mexican town where we were to spend the night. Beds had been bespoken in the little hotel familiarly known as the "bird cage" and we were soon sleeping the sleep of the just.

With the first break of day we were up, had our coffee, and started out to see the place. As a matter of fact, there was not much to interest one at that early hour. Most of the inhabitants were still wrapped in the arms of the sleep god, whatever his Aztec name may be, and the chief signs of life were the dogs, chickens, and turkey buzzards, the latter the most independent and loathsome of all the feathered tribe. There is a fine of \$50 for killing one, and the creature knows it, and pursues its scavenging operations with a ruffianly impu-



"PODECA" ON PLANTATION "RUBIO."





ANOTHER CAMP ON PLANTATION "RUBIO."

dence that is disgusting. It is said that every community in those parts has one buzzard for every inhabitant. According to that, Minatitlan has lots of folks that do not appear in public, for seated on fences, on roofs, swooping down to rob the dogs, fighting, flapping, and squawking, the buzzards were legion.

A little later we all assembled at the boat landing, climbed over a lot of Indian dugouts, and were prepared for the trip up river. Our journey that day was to be up the Coatzacoalcas, the Usapanapa, and Chichigapa rivers, some twenty miles, to view plantation "Rubio." We had elected to talk a lot about rubber planting, but the strange sights, the wonderful scenery, and the glory of the day drove all thought of "shop" out of our minds. By tangled forests, great grassy plains, Indian villages, bamboo thickets, we went, disturbing sullen alligators, and great milk white cranes, and being hailed in unknown tongues by the naked children on the river banks.

WHEN the novelty of the scene had in a measure worn off, I availed myself of my privilege of asking questions, selecting the general manager of the "Solo Suchil" as my first victim. He responded most cordially, and I soon learned that his plantation was an amalgamation of three estates, was named after the river on which it was situated, and that it grew both coffee and rubber, the latter being used for shade. He had planted both from seed and from nursery stock, but favored the former when practicable. His trees were from one to five years old, and there were about 400,000 of them. He, like all others, was of the opinion that it was fatal to allow the grass to get a foothold among the rubber trees. For this reason, when the rubber was planted alone, it was put in from seven to nine feet apart, and as a further precaution, he was planting between the rows a kind of sweet potato known as the "camate," which covered the ground with a dense mat of vines among which the grass would not grow. This brought out the store of botanical knowledge of my friend Harvey, who recommended the cow pea and the velvet bean for just this purpose, an opinion that I found shared by the others, notably by Dr. W. S. Cockrell, another pioneer planter, of the very interesting meeting with whom I shall tell later.

AFTER a two hours' ride we turned into Chichigapa creek, a deep silent waterway about 200 feet wide, and erelong were tied up at the wharf that is part of the "Rubio" estate. As the banks are low, a substantial platform some 600 feet long leads back to the *bodega*, or storehouse. This is a two story building of brick, with tiled roof on one side and glass roof on the other, and is something that every planter should have. It is in fact a dry house for corn and beans, and is fitted with airtight bins for the storage of these cereals, an effective protection against the omnipresent weevil and equally troublesome mold.

The building that challenged our admiration for its beauty, however, and later for its manifest utility, was the two story dormitory that, situated on an eminence further back looked like a planter's mansion. On close inspection it was found to contain a dining room and kitchen, and sixteen sleeping rooms, all of which opened out on to a broad verandah, which was wholly enclosed in wire netting. The partitions between the rooms were made of burlap, painted over to give it a finish, a very practical and economical plan in a country where matched boards bring a high premium.

To view the plantation proper, it was necessary to have recourse to the horse, and after lunch quite a party of us started through the typical forest trail toward the cleared and planted land at the further side of the estate. At length we emerged into the open, and found ourselves on a ridge from which we had a view of hundreds of acres of rich rolling land, all covered with *Castilloa* trees about a year old. We rode over this whole planting, visited the four camps where the native workmen live in palm thatched houses, and examined the rubber trees on the hilltops, on side hills, and in the valleys, and when we were told that the stand of rubber embraced 1500 acres, all cleared, burned, and planted in one short season, and that there were fully 2,000,000 healthy trees, we fell to congratulating Manager Luther on the accomplishment of so marvelous a task. It took so long to do the whole of the sightseeing that it was dark when we entered the forest again for our two or three mile return ride. Our horses knew the way, however,

FIRST VIEW  
OF "RUBIO."

"SOLO  
SUCHIL."



and brought us safely through, and an hour later we were on the launch steaming back to Minatitlan. The voyage was without special incident, unless one were to cite the clouds of white moths that filled the air until it looked as if it were snowing, and which finally drove us to cover in the cabin.

The next day we took in a plantation far up the Coachapa river, owned by a wealthy native, Señor Sanchez. His interests were chiefly in cattle, although he had a little grove of wild seedling *Castilloas* about ten years old, which were 16 to 18 inches in diameter, and perhaps 30 feet high. These we tapped in all sorts of ways, and got an abundance of milk, and incidentally proved that neither native nor white man can tap a tree successfully without much practice and skill.

Indeed the next great problem that is to confront the rubber planters is that of tapping and preparing for market. One has only to look at the wild trees in the forest, and see how they have been hacked and scarred by the natives, to appreciate the fact that the planters will need better work and greater care of their trees. If all of the natives were expert *machete* men, and good climbers, the problem would be easily solved, but the real good men in this line are scarce. It is a most interesting sight to see a really skilful tapper, armed only with a rope and *machete*, beginning at the bottom of a tree, cut the channels so that the sap runs from one to another with scarcely a drop spilled, every stroke of the *machete* being just right, walking easily up the smooth tree trunk, and even running the tapping channels out on the larger branches. It is also equally disgusting to see a native who claims that he knows how to tap, mangle the bark, and able to climb only a foot or two without slipping down. The practical solution is going to involve two things: one is, the invention of a simple tool that is foolproof, and that cannot in any way injure the tree, and the second is a light safe ladder that will allow the *mozo* to reach the upper part of the trunk. Most of the planters plan to bleed the trees twice a year, in May and October. Some however hold that they can stand tapping much oftener, and some most interesting experiments are being inaugurated in the exploitation of this theory.

The sap flows apparently as freely at one time of the year as it does another, but the dry season is undoubtedly the best for tapping, as there is no rain to wash away the milk, and the tree is resting then. If the cutting is done well, the scars soon fill in with new smooth bark, which in no way interferes with later working. The natural way, however, will be to drain one side of the tree at one time, and another at a subsequent tapping. The planters are already planning as to the arrangement of gangs of men, and the pay for tapping and coagulating. The favorite method undoubtedly will be to give each native a certain stint, measured

by the amount of latex that he brings in. I got a number of estimates as to the cost of tapping and coagulating, based on actual work, and in no case was it more than 10 cents a pound, Mexican.

Another thing that the planters plan to do is to produce clean dry rubber, and there is no reason why they should not accomplish it. Of the various means of coagulating that are devised by experts, the one that seems to appeal the most strongly to the practical planter on the Isthmus is the use of the juice of the "amole" vine, the *Ipomoea Bona nox*, which is

most abundant everywhere, and which apparently adds nothing to the rubber, and effects a quick and clean coagulation.

After coffee at the Sanchez abode, we returned to Minatitlan, retired early and at 3 o'clock the next morning were awakened by Mr. Luther, escorted to the launch, bidden a hearty goodbye and were on our way to Coatzacoalcos, to take the morning train for Tehuantepec. We had planned to take a river steamer the *Dos Rios*, and visit the plantations far up the river, of which there are a lot, but a

snag having punched a hole in the boat's bottom, it was forced to tie up for repairs, thus disarranging our plans. We therefore decided to go at once to the Pacific side, and "dry out" and rest, and so it happened that at 9 in the morning we were again on the train, this time bound west.

\* \* \*

ON the train I had a good chance to sort my notes, look over my photographs, and incidentally plan for their later appearance in THE INDIA RUBBER WORLD. Speaking of photographs, it had been my intention to secure likenesses of all of the pioneers in planting just as fast as I got them off guard, but luck was against me and I was unable to carry out this plan until I reached "Rubio." There I secured Mr. A. B. Luther's likeness, and I am glad to introduce him here. It would have suited me better if I could have caught him on horseback, alert, energetic, cheerful, administering the plantation affairs with rare tact and wisdom, or even if I could have had two photos of him, one, when seven years ago he came to the Isthmus and viewed the promised land, the second being the Luther of to-day, full of experience, with the knowledge of difficulties overcome in his eye, and the seal of success on his brow. It is to just such spirits

as this hardy pioneer that the American Conquest of the tropics is due, and as this goes to press I am mentally transferring myself to his headquarters in Minatitlan to tell him again how I appreciate his work at "Rubio," and by the way, I would that I could be there in the flesh for the added reason, that on the Glorious Fourth the Planters' Association, in which Mr. Luther is a prominent figure, meet for a genuine American Celebration.



PIECE OF ROAD ON PLANTATION "RUBIO."



A. B. LUTHER.

## NOTES ON RUBBER EXPLOITATION.

## SALE OF A STRAITS SETTLEMENTS RUBBER ESTATE.

THE Pataling Rubber Estates Syndicate, Limited, with £30,000 capital has been registered in London to acquire the Pataling estate, of about 2000 acres, on Klang river, near Kwala Lumpor, in Selangor, Malay states, to cultivate India-rubber, coffee, and other products. The vendor is Miss Florence May Bennett, of Berkshire, England. From *Indian Planting and Gardening* (Calcutta) it appears that the Pataling estate embraces 2000 acres, held under a lease from the government for 999 years from 1895, at a quit rent of \$200, silver, per year. Part of the land was planted at first in coffee, but in view of declining prices of this commodity, the planting of rubber between the coffee rows was begun in 1897. The rubber trees (presumably *Hevea*) planted in that year are vigorous, averaging 26 inches in circumference 3 feet from the ground. There are now 347 acres planted to rubber, besides 50 acres in rubber and cocoanuts. It is proposed now to plant the whole remaining area in rubber, at the rate of 200 acres a year. The estate is now practically self-supporting, the yield of coffee last year having been about 133,000 pounds. The purchase price is £20,000, of which £5000 is payable in cash, £5000 in a first mortgage at 5 per cent., and £10,000 in shares. H. C. Rendle is superintendent of the estate.

## HARTFORD SUGAR AND RUBBER CO.

[Plantation in the state of Tabasco, Mexico. Office No. 17, Pearl Street, Hartford, Connecticut.]

THE charter, under Maine laws, issued April 22, 1902, has been amended, to omit from the title of the company the words "of Mexico"; to increase the capital from \$600,000 to \$1,000,000; and to decrease the par value of shares from \$25 to \$10. The company advise THE INDIA RUBBER WORLD: "The company now has 150 acres of strong, rich sugar cane and expects to plant 1000 acres and erect a sugar mill with a grinding capacity of 350 tons of cane daily. It also intends to plant 1000 acres of rubber and is now clearing 200 acres of forest land for this year's setting. The strong vigorous rubber trees on the lands of our neighbors, the Tobasco Commercial Co.—Plantation "El Zapote," under practically the same management—"leads us to expect a very large return from this industry." When a former notice was made in this Journal (July 1, 1902), the company were not planning any early attention to rubber.

## ISTHMIAN PLANTATION ASSOCIATION OF MEXICO.

[“Hacienda del Corte,” Palomares, district of Juchitan, state of Oaxaca, Mexico. Office—Hermann building, Milwaukee, Wisconsin.]

THE annual inspection last spring was made by George James Davies, a Chicago business man chosen by the other shareholders for the purpose. He reported the acreage improved, to the end of 1902, at 2105, with 1035 acres fully planted. The number of trees and plants placed during three years has been:

	1901.	1902.	1903.	Total.
Rubber.....	4,332	41,678	48,130	94,140
Coffee ..	117,774	73,502	46,908	238,184
Cacao.....	.....	1,268	.....	1,268
Bananas.....	.....	.....	7,337	7,337
Pine apples.....	.....	.....	15,000	15,000
Castor beans.....	.....	.....	69,000	69,000
Cocoanuts.....	.....	.....	24	24
Oranges.....	.....	.....	80	80
Almonds.....	.....	.....	40	40

The road making had progressed to 51,413 meters [=nearly 32 miles]. The average number of men at work during 1902 was 223. A list of 30 plantation buildings is given, including

18 for laborers. The sale of crops produced during the year is reported as follows (in Mexican silver):

Corn.....	\$13,485.16	Beans.....	\$63.00
Rice.....	2,025.00	Bananas.....	45.05
Rubber seeds.....	913.50	Castor beans.....	21.65
Coffee plants.....	335.00		
Coffee seeds.....	\$4.00	Total.....	\$17,962.46

The yield, after deducting cost of harvesting, amounted to \$15,477.73. This table does not include 3000 pounds of coffee ready for shipment. The proceeds were devoted to the payment of dividends.

Mr. Davies reports that the rubber trees 2½ years old measured from 15 to 26½ inches in girth, and 12 to 18 feet high. They are planted 18 feet apart, each way, allowing 160 to the acre. The management planned to plant 85,000 or 90,000 rubber trees this year. A large clearing was being made for sugar cane. Vanilla is also to be planted. This plantation has been mentioned previously in THE INDIA RUBBER WORLD for June, 1901, and May, 1902.

## THE CENTRAL CAUCHO CO. OF CUBA.

[See THE INDIA RUBBER WORLD, January 1, 1902, page 116.]

THE capitalization of this company is now given at \$2,500,000 instead of \$100,000 as at first. The officers now are Edwin Liebfried, president; A. J. Millikin, vice president; N. P. West, secretary and treasurer—all interested largely in real estate, and Mr. Millikin also in Cuban affairs. The principal office is in Philadelphia. Titles and options have been obtained on a large tract near Trinidad, Santa Clara province, in south central Cuba, and 500,000 rubber trees from Pará seed are reported in the nurseries, ready for planting. Plans are making for large plantations of rubber and pineapples. The company offer shares at \$5, bearing interest at 5 per cent., guaranteed by bonds secured by city real estate mortgages through the Pacific Underwriting and Trust Co. of San Francisco.

## CEYLON PLANTERS' RUBBER SYNDICATE, LIMITED.

[See THE INDIA RUBBER WORLD, May 1, 1902, page 105.]

AT the third annual meeting, at Ceylon, in March, the report for the year 1902 showed that of the authorized capital of 2,50,000 rupees, 1,40,000 rupees [= \$45,411.33] had been called in. The number of acres planted in rubber had increased from 350 to 433. The growth was reported to have been favorable. Sixty acres had been planted also with Liberian coffee, between the rubber rows, and it was planned to plant 140 acres more in coffee, in the same way, during April. The expenditure during the year equalled \$9,208.28, United States money, bringing the total up to date to \$40,921.77. The estate is expected to become self sustaining within three years.

## GUTTA-PERCHA FROM LEAVES AT SINGAPORE.

THE director of the Nederlandsche Gutta Percha Maatschappij—J. W. Schiff—in reporting on this company's business for 1902, says that the factory was brought into regular working order on April 22. Subsequently it was closed for 16 days on account of holidays and 60 days for the lack of Gutta-percha leaves, so that the operation was confined to 187 days. There were received at the factory during the year 10,475.21 pikuls [= 1,382,728 pounds] of leaves, of which 10,205.33 pikuls were worked. A more liberal supply of leaves is desirable, but there is a promise that this will be secured. The yield of Gutta-percha varied greatly. Some lots yielded as high as 2.66 per cent. in weight, while other lots yielded less than 1 per cent.



The small yield is attributed to delay in shipment of leaves, causing them to become very dry. The expenses of exploitation during the year were 136,546 41 florins [= \$54,890], including administrative expenses in Holland. The Gutta-percha product is reported at 79,537.40 florins [= \$31,740.]

#### RUBBER EXPORTS FROM CEYLON.

THE official statements of exports of crude India-rubber from Ceylon—all the product of cultivation, since rubber is not found native on that island—show the following increase:

In 1901 .....	66 cwt.	= 7,392 pounds.
In 1902.....	189 "	= 21,168 "

The greater part of this was rubber of the Pará variety, the satisfactory sales of which have been recorded in THE INDIA RUBBER WORLD. Some of it, however, was the product of the Ceará tree, and the prices obtained for it were correspondingly satisfactory.

The annual report of the United Planters' Association of the Federated Malay States gives the following details of exports of rubber, produced under cultivation during 1902:

From Selangor ("Pará" rubber).....	3200 pounds.
From Perak ( <i>Ficus elastica</i> ).....	2749 "

There is thus indicated a total export of 27,117 pounds of rubber, the product of cultivation, from the Far East during the year.

#### THE YIELD OF THE PARÁ RUBBER TREE.

HERR ERNST ULE, in writing of his expedition to the rubber districts of the Amazon river, in the *Notizblatt* of the royal botanical gardens of Berlin (March 15, 1903), after mentioning his observations on the upper Purús, says: "My experiences with regard to the yield in different regions agree in many ways with an article in THE INDIA RUBBER WORLD (November 1, 1901—page 46), 'Yield of the Pará Rubber Tree.' The number of working days, however, rarely amounts to 180 per year; it may rather be assumed to be 100 days on the average, or from 120 to 150 days at the utmost. The high yield of Purús, 16 pounds (per *estrada*) daily, holds good only for the newly opened district on the highest reaches of the river; the lower river now yields less than the Acre. In rich rubber regions it sometimes happens that a worker collects more than 1000 kilograms per year (about 4 kilograms on an average per tree), but generally the average per worker is between 300 and 400 kilograms per year." From Herr Ule's figures it may be deduced that the best yield on the Purús involves the working of two *estradas* per man (on alternate days), averaging 125 trees per *estrada*, or 250 trees, with an average production of 8½ pounds per tree. This amounts to 1000 kilograms for the year. If he gains only 500 kilograms, the average per tree is one half as much, and so on. The article in THE INDIA RUBBER WORLD referred to mentioned an estate on the Purús where 10 men collected in one season 20,170 pounds of rubber—equal to 9150 kilograms, or an average of 915 kilograms per man.

M. Paul Cibot, in the *Journal d'Agriculture Tropicale* (Paris), records some observations on the yield of rubber trees on the rio Beni, in Bolivia, which are summarized below. The tapping of 120 trees, on 23 days, from July 19 to August 25 [1901?], gave the following results:

Weight of latex.....	103 240 kilos	= 233 626 pounds.
Weight after smoking.....	73 "	= 160 936 "
Weight dried rubber, Sept. 2.....	66 "	= 145 504 "

Loss in weight in coagulation and drying, 1 per cent.

This product of dry rubber equals 23 9 grams per tree per day, and estimating 180 working days per season, as Mr. Cibot does, would give a yearly average yield per tree of 4 5 kilograms [= 9 93 pounds]. If the further shrinkage of the rubber *en route* to Europe should result in a product 50 per cent. less in weight than the original latex, the average yield per tree would

be 3 5 kilograms [= 7.72 pounds] per tree. But M. Cibot found some actual results, based upon larger practical operations, more favorable, pointing to an average yearly yield per tree of 3.924 kilograms [= 8.65 pounds] of rubber received in Europe. Those results apply to trees not before tapped; M. Cibot finds that the yield diminishes with each succeeding year.

#### "CASTILLOA ELASTICA" IN CEYLON.

W. E. GILDEA, in the *Tropical Agriculturist*, writes of the *Castilloa elastica* planted on the Ambanganga estate, in the Matale district, Ceylon, in November, 1900, that thirteen trees measured on an average, at the age of 2¼ years, 18 feet in height and 8 inches in diameter. Six months earlier the average height of trees measured on the same estate was 12¼ feet and the diameter a little more than 5 inches.

#### LARGE DIVIDENDS ON RUBBER TRADING.

THE net profits for 1902 of the Société Anversoise pour le Commerce au Congo, based principally upon trading in rubber in the Congo Free State, were stated at the general meeting at Brussels during the month, to have been 1,080,247 francs [= \$208,487.67]. A dividend of 300 francs per share was declared, amounting to 1,020,000 francs. There are 3400 shares "without designation of value," though commonly reckoned at 500 francs each, one half the shares being held by the state, which presumably has contributed no capital. With the shares at 500 francs, the last dividend amounts to 60 per cent. In one year (1897) net profits of 3,986,832 francs were reported—about 230 per cent. profits—and shares have been quoted as high as 13,730 francs.

Last month in these pages it was mentioned as probable that the dividend of the Société A B I R from the trading in rubber for 1902 would amount to 100 per cent. It appears that the net profits were 1,472,000 francs [= \$284,096], and a dividend was declared of 850 francs per share. The system of shares is the same as in the company named above, which permits the rate of dividend to be stated at 170 per cent. The Société A B I R held at the end of the year 389½ tons of rubber and during the first four months of 1903 had collected 275 tons.

#### BALATA DISCOVERIES IN BRITISH GUIANA.

THE annual report on this colony for 1901-02 to the British foreign office states: "The Balata industry enjoyed fair prosperity during the year. New forests of bullet tree [Balata] have been found in the upper reaches of the Berbice, Courantyne, and Demerara rivers, and some work has been done in them, but there has not yet been time to bring their produce to market." Exports of Balata from this colony have been (pounds):

1901-02	1899-00	1898-99	1897-98	1901-02
490,443	468,569	237,824	425,371	387,576

#### NOTES.

THE death is reported of Señor Don Joaquin Jimenez, of Tuxtepec, Mexico, who has been mentioned in this paper several times as an extensive coffee planter who had also growing a considerable number of productive rubber trees. During the Tuxtepec rebellion he commanded the rural force sustaining the established government, since which time he has been known as Colonel Jimenez.

=The Tabasco Plantation Co. (Minneapolis, Minn.) are having plans drawn for a steel frame sugar factory, to be equipped with machinery for handling 1000 tons of cane per day, for their plantation on the river Macuspana, in the state of Tabasco. The company are planting rubber as well as sugar.

=The Bolivian Rubber and General Enterprise, Limited, with £150,000 capital, has been registered in London to adopt an agreement with C. Chevanne, S. Chevanne, and H. Ferreccio, to acquire rubber concessions in Bolivia and elsewhere. Registered office: 18, St. Swithin's lane, London, E. C.

## THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

*By Our Regular Correspondent.*

THE complaints which have so long been rife with regard to the treatment of the natives by Belgian *concessionaires* in the Congo Free State have now led to a discussion in the British house of commons, and after what has transpired it would appear necessary for the signatory Powers to the Berlin convention to take some decisive steps. I have not the space at command nor any particular qualifications for discussing the matter *in extenso* here, and shall limit myself to a few casual remarks. The two classes in this country who take any interest at all in the matter are philanthropists, who know nothing of "African ball" or "Mongalla strips," and rubber merchants, who may or may not know much about philanthropy. The former from their disinterestedness and power will undoubtedly prove more influential in promoting the amelioration of the conditions under which the natives suffer—always supposing that what Captain Burrows and others describe is not an exaggeration. I do not find that the "man in the street," to use a convenient expression, takes any interest at all in the matter. That the phenomenal growth in the rubber imports of Antwerp showed a decline last year is a fact familiar to those who study the market reports of this Journal, but it is not quite clear to what agencies this is attributable. Is it due to decreased yield owing to less coercive measures in collection, or is it because of the inferiority of the product (recently referred to in this Journal) and the consequent lessened demand by purchasers? With regard to the disputed area of Bahr-el Ghazal, although we agreed to its management by the Congo State authorities as a temporary expedient, it may be taken that there is no intention on the part of England to yield up what we recognize as being part and parcel of the lands under Anglo-Egyptian domination.

NATURALLY the somber and premature ending of the Paris-Madrid race has given rise to a good deal of discussion and has been made the most of by opponents of automobilism. The incentive to prize winning in such cases does undoubtedly introduce the baneful element of professionalism, because the winning drivers can make use of their reputation to monetary effect, and when the prizes are great the tendency to exhibit recklessness will exist. A friendly race between amateurs is a different thing, though with the feeling that has now been aroused on the subject it may be taken that very little latitude will be allowed by authorities in the cases of motor contests of any kind. It would certainly be a pity if the big Irish race did not come off for various reasons, and I am glad to say that it has not been prohibited.—The German tire made by the firm of Louis Peter, *Mitteldeutsche Gummiwaaren-Fabrik* (Frankfort o/M.) is attracting favorable notice among British automobilists, and it is expected that it will have a good career when the Dunlop monopoly comes to an end.—I read in the daily press that Mr. John Muir, of Leith, Scotland, has invented a process whereby pig skin is made available as a substitute for rubber in the manufacture of tires, the sale of the American rights of the process for \$5,000,000 being reported.\* I know nothing about this business, but the idea of utilizing leather for this purpose is anything but novel. Previously, it has been found that leather did not stand the abrasion of the roads as well as rubber does,

and nothing but failure had to be reported.—Up to the present, motor tire manufacturers have resolutely refused to give guarantees for any minimum time limit as in the case of cycle tires, and this has been rather a sore point with purchasers. An exception has, however, now to be noticed, as the Peter tyre referred to above carries a guarantee of 10,000 miles. Exactly how this is to be checked does not seem obvious; a good deal must certainly be left to the honesty of those advancing claims.

Though not exactly a rubber matter, the rise in the price of petrol is causing concern to motorists. It is said that the yield in America from whence it is imported is decreasing, though how far this is a fact I have no means at hand of ascertaining.

ON the whole the circular referred to in this correspondence last month has been received by buyers in a good spirit, its necessity being very generally recognized. The unanimity of the trade in the matter was not quite complete because the Dunlop company remain outside the pale. It is not surprising that the action of this company in pushing its goods at the old prices has been adversely commented on by its competitors who, however, console themselves by predicting for the delinquents all sorts of dismal results from such mistaken policy.

THE fact that there are now seven journals devoted to the interests of the rubber trade, is one that seems to call for a word of comment. Of course, there is nothing surprising in the fact that, in the absence of a universal business language on the lines advocated by Sir F. Bramwell at the last meeting of the British Association, each country in which the trade is carried on to a large extent should wish to have a journal in the vernacular. The journals written in the English tongue probably circulate to a greater extent among foreign manufacturers than is the case with the French and German publications with us. What is the situation in America I do not know, but I can testify to the very slight circulation of the German rubber journals among our manufacturers, and this for an obvious reason quite apart from lack of interest. It is a truism to say that it is no easy task to successfully establish a new trade journal; a very long list might be compiled of those which have come to an end rapidly, or after a lingering illness induced by the apathy of those whose interests they were intended to subserve. From what manufacturers in various branches of trade tell me, it has been the too liberal employment of scissors and paste that has hastened this end. The subscribers look for originality and are not satisfied unless they get it; the presentment of complete market returns are, they say, of very little use, because nowadays, with the amount of circularization and telephonic communication which goes on, such news is always too belated to be of actual service except for the student of statistics. With regard to obtaining this original matter editors frequently find a difficulty because those who are best able to furnish it are as a rule in positions of subserviency which precludes them from appearing as authors, and one can hardly cavil at this, because it is expecting too much of an employer that he shall contribute to the welfare or education of his close competitors. Altruism is practically non-existent in trade circles, and there is little likelihood of its tenets becoming the rule instead of the rare exception. It is a noticeable fact with regard to the British rubber trade that members of firms re-

THE  
CONGO STATE.

MECHANICAL RUBBER  
PRICES.

RUBBER TRADE  
JOURNALS.

MOTORS  
AND  
TIRES.

\* Not known in the United States.—THE EDITOR



ligiously abstain from ventilating their ideas in the columns of their trade journal. Of course one can understand that the remuneration in this case would not prove the bait that it does to the journalist in his garret, but still this complete abstinence is to be regretted from more than one point of view.

FROM what a prominent firm in this line of business tells me, the rise in the price of Pará rubber hardly affects them at all. And this not because they can raise their

THE  
CARD CLOTHING  
TRADE.

prices in proportion, because quite the contrary is the case. The fact, however, seems to be that the rubber-faced card has practically

ceased to be a source of profit. It is still manufactured but in much smaller proportion than the composition card into which rubber does not enter. As both classes of goods are made by the same firms the change has meant an alteration of procedure rather than a loss of business, though the capital expenditure in the requisite plant for rubber cards being much greater than in the case of the composition ones, it is of course, a matter for regret that it should fall into desuetude. Although price is to some extent responsible for the increase in favor of the composition card, yet certainly as far as woollen mills are concerned, merit has largely brought it to the front, and this because of the liability of the rubber card to suffer decomposition by the action of the greasy matters in the wool. The ingredients that are employed in the manufacture of the composition card are somewhat jealously guarded as a trade secret and probity compels me not to enlarge upon the subject. Messrs. Horsfall & Bickham, prominent card manufacturers, have taken to the motor car manufacture successfully and are therefore interested in vulcanized rubber as well as the raw Pará, which was formerly their sole purchase.

AT the June sale of condemned stores by the general post-office about 44 tons of Gutta-percha was offered, the price

CONDEMNED  
TELEGRAPH STORES.

charged to prospective purchasers for samples being 4 shillings per pound, showing a continued rise. The amount offered has

shown very little variation for some time past, and has certainly not decreased as might have been expected with the greatly increased application of the "dry core" telephone cables. It is noticeable that the rubber covered cable on offer is marked at 6d. per pound for samples instead of the 1s. 6d. at which it stood in earlier lists. I should imagine that the department used to experience a difficulty in finding buyers at their former estimate of value. The waste rubber is now largely augmented by inner tubes and covers of cycle tires, cycles now being in regular use by subordinate officers of the department.

In the volume entitled "Conductors for Electrical Distribution," by Dr. F. A. C. Perrine, published recently in New York,

A NEW BOOK

there are not unnaturally several references to India rubber and Gutta-percha. I quote the

following paragraph, as it seems to invite a little comment: "The decay of cut sheet lapped on copper wire was found to be due to the medium used for preventing the sheets of rubber from adhering, for which purpose use was made of soap and potash substances which subsequently liberated oxygen and grease, one attacking the wire and the other the India rubber." Now it strikes me that there are chemical discrepancies in this seemingly clear categorical statement of the cause of a complaint which is of old standing. I do not however propose to discuss the matter at length as far as the decomposition of the soap is concerned, but in the case of untinned copper the more probable explanation is the direct oxidation of the rubber. Nowadays when the cut sheet is used in a vulcanized cable its decay seems directly attributable to the sulphur penetrating from the vulcanized layer to the wire, the usual tinning of the

latter being inadequate to prevent the formation of copper sulphide or sulphate when the wires get heated. Whatever may have been formerly the case, nowadays it is difficult to get an alkaline reaction from the cut sheet made in England, the caustic soda or other body used in the water being present in very small amounts. With regard to the use of the white separator Mr. Perrine remarks that it presents no distinct advantage while adding considerably to the cost of insulation. I don't know whether the makers of Hooper's core endorse this opinion; certainly the idea of keeping the sulphur away from the wire is sound enough, but it does not always seem to have done this effectively.

A CONSIDERABLE difference of opinion is noticeable among British rubber manufacturers as to the actual advantages to be gained by advertising. Some firms have gone

THE USE OF  
ADVERTISING.

in for it for years with regularity, while others have persistently declined to make use of the

space offered to them by the advertisement canvasser—on the usual terms. Presumably the former class are satisfied with the result of their investment or else in all probability they would have lapsed into the ranks of the latter. Of course it is always a difficult matter to ascertain how much new business is directly traceable to the advertisement, because in Great Britain, at all events, it is not usual to insert or to comply with "Please mention this paper when you write." I may say that my thoughts have turned on this subject from noticing how great an increase there has been of late in the number of Continental and American firms advertising in British journals. The fact that these find it advisable if not imperative to advertise, while old established home firms hold aloof, is no doubt because the former have to break new ground and get their unknown names familiar to the public, while the latter, who are already as a result of many years trading well known, require no such introduction. A name which has become a household word, so to speak, is a valuable asset of good will which can hardly be augmented by advertisement—that is, where only a limited number of buyers exist and the million is not being appealed to. Some firms assert that by means of their travelers they can tap new sources of revenue to better effect than by an advertisement. This may or may not have proved to be the general experience, and I only repeat the statement for what it is worth. With regard to the question as to how far British rubber manufacturers have been affected by the existing foreign competition, it would be difficult to speak definitely without a good deal of poking into private business affairs, but from what I have gathered our manufacturers do not seem to view the situation with alarm. In the mechanical trade, at any rate, the demands are more often than not for goods to some special pattern which cannot be supplied from stock. Further, if the regular orders are not of a special nature, specialties are often wanted, and the British manufacturer shows himself somewhat indisposed to take the necessary trouble about these if he finds that the bulk of the orders for stock patterns go to some other country. He is ready enough to go out of his way to oblige a good customer or where there is a *quid pro quo*, but it is not at all surprising that he jibs at being expected to pick up with avidity the crumbs from a foreign competitor's table. But to return more particularly to the subject of advertising, for a final word, if it is acknowledged as necessary for the foreigner to advertise in British journals in order to get known it would seem that the British might retaliate by making known the superiority of their wares in American journals. This suggestion emanates entirely from myself and is not due to any inspiration from New York, as the uncharitably disposed might possibly imagine.

## THE RUBBER STAMP TRADE.

THE same rule seems to hold in regard to rubber stamps as with all other lines of rubber manufacture—such goods when once introduced continue to be used, and in constantly growing volume. The order book of a large rubber stamp maker reveals as great variety probably as can be found in the production of any other industry. Between the plain signature, or "Paid" or "Received" stamps, used in office correspondence, to the 13 × 18 inch stamps used by some manufacturers to label boxes or packages with a description of the merchandise contained, there is a wide range, in which some new thing is apt to appear in every day's orders. Rubber stamps are used nowadays even in many designs for mechanical plans when the same detail occurs often, especially since a stamp ink has been invented that is adapted for blue print work.

A very great incentive to the rubber stamp trade followed the introduction of the pneumatic stamp, with its imitations, including the use of sponge rubber pads, it being possible, with a flexible stamp, to obtain good impressions over uneven surfaces, not to say very much larger surfaces than before these new features were adopted. The sale of rubber type grows apace with the stamp trade. Whereas many goods formerly were shipped with only initials or symbols to indicate the names of consignees, the leading transportation companies now require packages of freight to be marked with the full names and addresses of the parties to be reached, and rubber type has come to be preferred to the stencil plate, ink pot, and brush for this class of work.

The extent of this industry in the United States cannot be estimated very accurately. No details on the subject appear in the census returns, rubber stamps and type being embraced under the heading "Rubber and Elastic Goods." A leading manufacturer interviewed by the THE INDIA RUBBER WORLD expressed the opinion that in a year there would be 10,000,000 rubber stamps sold, at an average of 60 cents, which would figure out \$6,000,000, with a trade in rubber type half as great. He estimated the number of legitimate rubber stamp manufacturers in the United States at about 300, of which 50 could be considered large concerns. All the rubber used is obtained in the shape of compounds from rubber manufacturers. Comparatively few orders are received from abroad for rubber stamps, since stamp makers will be found in every part of the world where a demand exists for such goods. There is a good export business in stamp supplies, however. Nothing like a "trust" has yet existed in the stamp trade, though negotiations are understood to be under way for combining three large concerns whose output runs largely to metal work, as "self inkers" and the like, in which metal enters to a larger extent than rubber.

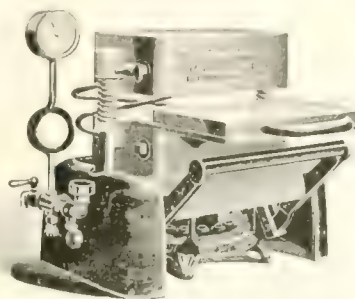
"Is the government a good customer of the rubber stamp trade?" a manufacturer was asked.

"A fairly large user of stamps, but not altogether a satisfactory customer," was the reply. "The postoffice department, particularly, calls for a great many stamps, but contracts for these are awarded to the lowest bidder, and quality does not seem to be considered. Whoever can offer the lowest price secures the business—the quality doesn't matter."

Letters sent out from government offices are always signed with a pen, so that signature stamps are not required, and there are very many uses for stamps in commercial and financial houses which find no counterpart in the public service. It appears that in the construction bureau of the navy department, rubber stamps are coming into use in connection with blue print work, on the lines indicated in a preceding paragraph.

## THE "BAY STATE" STAMP VULCANIZER.

THE first requisite of a rubber stamp factory, no matter how small, is a vulcanizer of some sort, and a large factory of this class requires a considerable equipment of vulcanizers. The importance of the trade has led to the development of a special class of vulcanizers, in which has recently appeared the device illustrated on this page—the "Bay State" vulcanizer, patented in the United States January 13, 1903 [No. 718,286]. In its construction extreme compactness has been obtained, with perfect freedom from connection with superfluous iron which



would draw off the heat unevenly from the surfaces to be heated and dissipate it by its large amount of radiation. The lower box is a steam generator, having its under surface deeply corrugated lengthwise for larger fire area, producing heat areas without,

and water legs within. The only contact this box has with the frame, which also constitutes a jacket to confine and guide the heat where it is desired, is by four projecting corner lugs which rest upon the points of four adjusting screws, by which thickness of sheet may be regulated. The upper steam box is connected with the lower box by securely guided side rods, and is elevated by springs and drawn down by a toggle lever which locks upon its dead center when the lever is clear down, insuring an exact duplicate thickness of any number of sheets. The No. 6 size, accommodating a chase  $6\frac{1}{4}'' \times 9\frac{1}{4}''$ , weighs 105 pounds; size No. 7 accommodates a chase  $10'' \times 14''$ . The No. 6 will generate 70 pounds of steam within fifteen minutes from time of lighting cold, and has been used to turn out as high as fifty separate heats in four hours. The machine is referred to also as an excellent molding press. [The R. H. Smith Manufacturing Co., Springfield, Massachusetts.]

## OFFICIAL USE OF RUBBER STAMPS IN GERMANY.

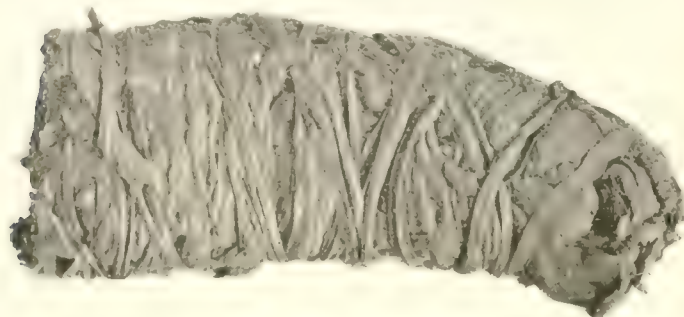
A WIDER use of rubber stamps in public offices in Bavaria is reported in the *Gummi-Zeitung*. A Bavarian ministerial decree requires that all stamps (seals) used by municipalities must be ordered from and made by the imperial mint. Recently the municipal government of Munich were in need, for their several branches, of quite a number of stamps. Made of metal, at the mint, these would have cost 8 to 10 marks each. A petition was made by the city authorities to the imperial minister to be allowed to use rubber stamps, which would answer their purpose, and could be supplied by private manufacturers at about  $1\frac{1}{2}$  marks each, which petition has been granted. It is believed that this action will go far toward removing the prejudice which has existed in certain quarters against the use of rubber stamps.

A RECENT British patent (No. 14,750—1901), granted to C. Paulitschky, of Vienna, relates to the manufacture of pneumatic tire covers with the object of rendering the tread surfaces especially hard. The materials required for an ordinary tire are taken, and after some shellac has been added, 40 to 50 per cent. of its weight of sulphur is kneaded into the mass. After uniform vulcanization at about  $100^{\circ}$  to  $110^{\circ}$  C., the tire is pressed into a mold made of a bad heat-conducting material, like asbestos, so formed that, while the tire is further vulcanized under greater heat, the portions which form the tread become hardened and the inner part remains elastic.



## ADULTERATION OF RUBBER.

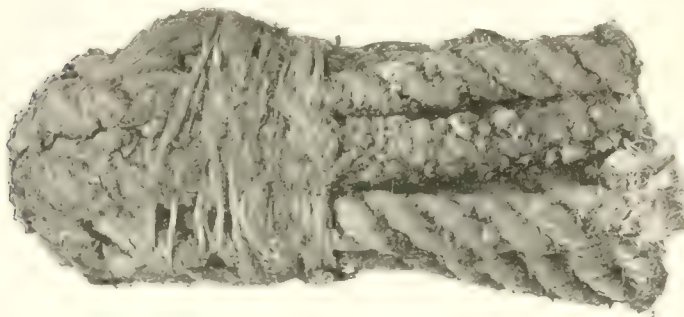
THE compounding or adulteration of crude India rubber at first hands—in other words, by the gatherers—is an evil which both importers and manufacturers strenuously resent. Every importer and almost every manufacturer at times has been surprised and annoyed to find lumps or balls of rubber, the interior of which developed billets of wood, stones, bricks, cast off clothing, and a variety of worthless “make weights.” In order to guard against this, when rubber is accepted from the gatherers it usually is cut open for an examination of the interior. This method being generally followed, serves to check this sort of dishonesty. Many lots of rubber, however, are



OUTWARD APPEARANCE OF RUBBER.

passed which contain such adulterants. In the illustrations shown herewith, cut No. 1 shows a lump of “Central Strip” which to the outward view was all right. Upon cutting it open, however, almost the whole of the interior was found to be made up of a lot of old rope, which, to say the least, was not worth 60 cents a pound.

This sort of dishonesty is easy to detect, but there are adulterations of both Pará rubber and Gutta-percha which so far are discovered only when the gums are used in manufacture. Whether or not the general value of Pará rubber is less to-day than it was thirty years ago is a question, and those experts in the trade who have been interviewed seem to be about evenly



COIL OF ROPE FOUND IN RUBBER.

divided on the subject. Apropos of this is an extract from a letter received by THE INDIA RUBBER WORLD from G. Lamy-Torrillon, of Paris, in which he speaks of the experiences of French manufacturers as follows:

“I would be interested in knowing if the American manufacturers, like the French manufacturers, have observed, that the original material (Pará rubber) has been made fraudulent, or at least that the original material is no longer what it formerly was. It is evident that Pará is no longer now what it once was, and when we consider during a period of thirty years, and even less, the difference between a piece of Pará of to-day and previous to that time, we will find an enormous difference. What produces this difference? It is the result of different

causes; exhaustion of the rubber trees, the admixture of milks other than those coming from the *Hevea*, the addition of earthy substances and finally its mixture with farinaceous substances, such as fecula, starches, etc., and in proportions such as could not have occurred by accident. What has brought about these results? At any rate this fraud should not be allowed to continue; it should be arraigned, stopped, and destroyed. Such a destructive state of things to our industries must be brought to a stop, or it will in the future become disastrous if obstacles are not placed in its progress. Action should be taken at the earliest possible moment by giving the greatest publicity to the proof of this state of things. Insist on the merchants furnishing pure material, and that they in their turn demand pure material from the importers and those who gather the material, so that the milk from the *Hevea* may be pure, that there may be no mixtures with other milks, that there may be no mixture with earthy matter, and above all that there may be no addition of farinaceous substances in the milk before hardening or coagulation and finally that the product may be no longer suspected and that it become what it was in former years.”

## VALUE TO GERMANY OF EXPORT TRADE.

AN improving tendency in German business conditions is noted in a recent report by the United States consul general at Berlin, Mr. Frank H. Mason, who has been stationed in Germany for many years and has become widely recognized as competent to deal with the subject to which this report relates. His report concludes:

“The most striking fact which is suggested by the record of 1902 is the priceless value to Germany of the export trade which her manufacturers and merchants had, with the aid of the great and growing German mercantile marine, built up and organized on a secure basis during the prosperous years since 1893. Whatever divided counsels may have since prevailed in respect to the fiscal policy of the empire, every broad minded economist knows that the material progress and greatness of Germany have been due to her industries and commerce, and that her sheet anchor in the stormy weather of the past two years has been her foreign trade.”

The new German tariff act, which passed the reichstag on December 13, 1902, has been designed with a view to more strongly protecting home industries of every class. While its enactment has been announced by imperial decree, the new law will not become operative until Germany has concluded new commercial treaties with several nations, in negotiating which the attempt will be made to secure more favorable terms for the introduction of German products into the different countries. In other words, the German import duties will be levied with a view to discriminating against countries which decline to grant reciprocal favors. The ratification of the new treaties, however, rests with the new reichstag elected in June, for which reason the result of the elections was looked for with interest in many countries.

THE report 1902 of The Straits Settlements botanic gardens, mentions the distribution of 126,210 young plants of *Hevea Brasiliensis* (Pará rubber). The demand for seeds has fallen off, because so many of the trees now growing on plantations are fruiting. Mr. C. Curtis, at the Waterfall garden, in Penang, reports the seventh yearly tapping of a large Pará rubber tree, with a yield of 2 pounds 13¼ ounces, which brings the average for seven years up to 2 pounds 10 ounces. Mr. Curtis will write a report on the forest department in the Malay states.

## INDIA-RUBBER GOODS IN COMMERCE.

## EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values for the month of April, 1903, and the first ten months of four fiscal years, beginning July 1:

MONTHS.	Boots, Packing, and Hose.	Boots and Shoes.	All other products.	Total.
April, 1903 . . . . .	\$ 52,809	\$ 33,091	\$ 28,250	\$ 114,150
July-March . . . . .	596,790	915,505	1,723,392	3,168,566
Total . . . . .	\$649,608	\$948,596	\$1,751,642	\$3,349,846
Total, 1901-02 . . . . .	514,470	939,971	1,437,099	2,891,540
Total, 1900-01 . . . . .	418,085	662,971	1,142,124	2,543,180
Total, 1899-00 . . . . .	131,226	323,586	1,133,091	1,902,000

In addition, there were exports of rubber goods during the ten months as follows: To Alaska, \$86,260; Hawaiian islands, \$52,712; Philippines, \$47,787; Porto Rico, \$15,140—a total value of \$201,899 of such goods to the non-contiguous territories of the United States.

## GREAT BRITAIN.

THE following table, compiled from official returns, relates to the values of exports of manufactures of India-rubber (including boots and shoes) during four years past:

	1902.	1901.	1900.	1899.
To Foreign countries. . . . .	£1,111,216	£1,109,416	£850,816	£885,305
To British possessions. . . . .	277,589	314,048	375,597	272,274
Total . . . . .	£1,388,805	£1,423,464	£1,226,413	£1,157,579

Imports of rubber goods (including boots and shoes) during the same period have been in value as below stated:

	1899.	1900.	1901.	1902.
From Foreign countries. . . . .	£689,593	£708,175	£681,973	£757,325
From British possessions. . . . .	2,018	3,906	8,154	20,045
Total . . . . .	£691,611	£712,081	£690,127	£777,370

The next table indicates the value of the trade in rubber goods with the five countries ranking highest in respect to exports in 1902, and also the five highest in respect to imports:

EXPORTS:	Value.	IMPORTS:	Value.
France . . . . .	£221,641	United States. . . . .	£360,506
Germany . . . . .	149,474	Germany . . . . .	193,818
Australia . . . . .	100,407	Holland . . . . .	73,395
Belgium . . . . .	100,286	Belgium . . . . .	67,011
Holland . . . . .	64,754	France . . . . .	60,546

The value of exports to the United States was £44,796.

## EXPORTS OF RUBBER BOOTS AND SHOES.

[The Figures relate to Dozen Pairs.]

FOREIGN COUNTRIES:	1901.	1902.	BRITISH POSSESSIONS:	1902.
France . . . . .	20,026	24,177	Australia . . . . .	9,605
Belgium . . . . .	15,829	18,684	Hong Kong . . . . .	13,703
Turkey . . . . .	14,803	10,594	Natal . . . . .	5,059
Germany . . . . .	7,163	9,255	East Indies . . . . .	6,281
Norway . . . . .	7,671	7,046	Cape Good Hope . . . . .	3,657
China . . . . .	9,243	5,505	New Zealand . . . . .	2,215
Holland . . . . .	5,611	5,082	British Guiana . . . . .	3,528
Denmark . . . . .	2,539	1,588	West Indies . . . . .	880
Other countries. . . . .	2,859	1,864	Canada . . . . .	754
			Other possessions. . . . .	656
Total . . . . .	91,744	83,795	Total . . . . .	40,340

## SUMMARY.

Total dozen pairs. . . . .	138,084	143,628
Total value. . . . .	£176,387	£171,837

## IMPORTS OF RUBBER BOOTS AND SHOES.

[The Figures relate to Dozen Pairs.]

FROM:	1901.	1902.	FROM:	1902.
United States . . . . .	181,806	144,365	Other countries . . . . .	70
Germany . . . . .	57,946	49,451	Canada . . . . .	7,241
France . . . . .	10,344	10,791		
Holland . . . . .	1,124	3,306	Total . . . . .	229,191
Belgium . . . . .	657	26	Total value. . . . .	£246,221
				£288,832

## THE COMMERCIAL PACIFIC CABLE.

THE cable ship *Anglia*, which began laying the new Pacific cable from Manila on May 25, landed it at Guam at midnight on June 1, the splicing to the shore end having been completed, and the line was opened for business on June 2. There then remained to be laid the section between Guam and Honolulu to complete the line across the Pacific. The length of that line, to be laid by the *Anglia* and the *Colonia*, and touching at Midway islands, is 3440 miles.

In September last Vice President George G. Ward, of the Commercial Pacific Cable Co., on arriving in New York from England, announced that the United States and Manila would be in communication by cable on July 4 next. Thus far the program then in prospect has been carried out without a hitch, and the belief still exists that the completed cable will be in operation by the date mentioned.

It may not be generally known that while the Pacific cable is of British manufacture, the shore ends of the various sections—an important item, by the way—were manufactured in the United States, by The Okonite Co., Limited. The cable end at San Francisco is about 6½ miles long, made to the specification of the cable company as follows: Each cable consists of four cores laid up around a jute center, having a full twist every ten feet, then covered with jute and lead. Each conductor consists of seven wires, stranded, weighing approximately 170 pounds to the mile, and covered with "okonite" to a diameter of 0.295 of an inch. Each of the cores is taped and lead covered, and on three of them there are distinguishing marks in the shape of raised ribs, the fourth one being left plain. The cores were subjected to a breakdown test of 5000 volts alternating current, applied for ten minutes, and tests for insulation, conductor resistance and capacity were constantly taken during manufacture and laying. After the cables were laid and spliced up, final tests gave results practically identically the same as those obtained at the factory without splices.

Two such cable ends were supplied for Honolulu, each a trifle over 5 miles in length, and similar sections for Manila and the other stations. The experience of the Atlantic cable companies has shown that under certain conditions Gutta-percha lacks sufficient durability for use in cable ends, and the Okonite company have supplied such ends for some of the cables after they had first been laid with ends of Gutta-percha. To avoid the possibility of trouble on the new cable, land ends insulated with compound instead of Gutta-percha were called for in the original specifications.

## ANOTHER RUBBER DISTRICT EXHAUSTED.

ONLY a few years ago the editor of the *British Central Africa Gazette*, then recently started at Zomba, in British Central Africa, forwarded a sample of native rubber to THE INDIA RUBBER WORLD, with a request for an estimate of its value. Following this came reports of the collection of rubber in that district—lying to the west of Lake Nyasa—and its shipment to London, where fairly good prices were obtained, and hopes were entertained that a permanent new source of wealth had been developed. But a recent issue of *The Times* (London) publishes a letter from the Rev. Alexander Hetherwick, M. A., of the Church of Scotland mission at Blantyre, long stationed in the district referred to, in which he writes: "Central Africa has no indigenous product such as will form a staple export. The supply of native rubber is exhausted, and so, too, is the ivory trade." The rubber was collected from the *Landolphia* creepers, which seem everywhere to disappear rapidly under continued tapping.



## THE CONGO CONTROVERSY.

IN an editorial article the New York *Sun* (June 9) intimates that there may be two sides to the questions raised of late in regard to conditions in the Congo Free State, and that a suspension of judgment is called for. The *Sun* says: "The Congo Free State undertook a tremendous and perhaps impossible task in trying to open up central Africa without the barbarities that have invariably accompanied the introduction of civilization into savage lands. It might be fairer play perhaps to consider what the Belgians have succeeded in doing, as well as their failures." There might be more point in the *Sun's* comment if any evidence existed of efforts to civilize the rubber gatherers who are now being driven to exterminate the chief source of wealth in the Congo state. And when the rubber is gone, leaving no incentive to trading companies to remain on the ground, how much will the country have been "opened up"?

[From *The Times* (London), May 2.—Reuter telegram.]

ANTWERP, May 22.—The arrival of yesterday's London papers containing full accounts of the Congo debate in the house of commons has caused something like consternation in Congo commercial circles. The resolution passed by the house will, it is believed by many, prove a death blow to the Belgian monopoly on the Congo. Free trade and equal rights to all foreigners will, it is believed here, result in stamping out the outrages for which the trading companies are responsible, and dividends of from 45 to 100 per cent. will no longer be earned by the Belgian companies when foreign companies plant themselves in Congo territory.

[From the New York *Tribune*, June 1.—Associated Press despatch.]

BRUSSELS, June 2.—It is stated that King Leopold is going to London with several high Congo state functionaries, to endeavor to personally settle the Congo state questions, which, particularly the charges of brutality brought against the Congo state officials, were recently discussed in the British parliament. [From *The West African Mail* (Liverpool), May 29.]

THE Brussels correspondent of the *Standard* states that the grand council of the Congo state is convened for Tuesday [June 2] to deliberate on the situation. King Leopold is preparing a memorial to the signatory powers to the Berlin general act in reply to the charges made in the house of commons. The king is convinced that the proposed British action will remain without practical results, as France and Germany are not inclined to support it.

## ONE RUBBER MONOPOLY ON THE CONGO.

REFERENCE has been made in these pages from time to time to the formation of the Syndicat (or Compagnie) du Kasai, by the merger of the rubber *cessionnaire* companies trading in the region of the Kasai and its tributaries, in the Congo Free State. The reasons for the surrender of the independence of the several companies, organized at various dates between 1888 and 1900, with a large combined capitalization, and at one time reporting large profits, have never been announced publicly. *The West African Mail* (Liverpool), in an effort to throw some light on the subject, asserts that the companies began to find their business seriously interfered with by the government, though the activity of its agents in collecting rubber for taxes before allowing the natives to barter for European goods imported by the merchants. Complaints by the companies appeared in the Belgian newspapers, says the Liverpool journal, but there was no change in the situation until a plan proposed by the state was adopted, whereby a "trust" was formed, 4020 "shares" being created—without designation of value—the state reserving one-half, and the remaining 2010 shares being distributed among the companies.

Thus the Congo Free State, without contributing any capital, now comes in for one-half of the profits of the following companies, whose capital originally was as stated in the table. The outer column of figures indicates the number of shares in the syndicate allotted to each company:

COMPANIES.	Capital.	Shares.
S. A. Belge pour le Commerce du Haut-Congo	francs 5,050,000	340
Neuwe Handels Vennootschap	(a)	340
Société des Produits Végétaux du Haut-Kasai....	1,250,000	255
Cie. Anversoise des Plantations du Lubefu.....	600,000	217
Plantations Lacourt	800,000	204
Société "La Belgika"	3,000,000	109
Comptoir Congolais "Ve de"	1,000,000	77
Société "La Kassaienne"....	150,000	75
Société Anonyme "La Djuma"	250,000	74
L'Est du Kwango, S. A.	350,000	62
Société "La Loanje"	1,000,000	58
Central Africaine.....	(b)	55
Cie. des Magasins Généraux du Congo	1,200,000	31
Société Anonyme Trafic Congolais..	500,000	23
Total	francs 15,150,000	2010

(a) A Dutch company, no details at hand. (b) Capital 1,000,000 francs; engaged chiefly in industrial affairs and only to a small extent in the Congo trade.]

A comparison of the financial statements of the several companies shows them not to be uniform in style, but it would appear that eight of them, capitalized at 12,050,000 francs, in 1899 showed profits of 3,733,438 francs. In 1900 nine of the companies, with 13,250,000 francs capital, yielded profits of 3,080,214 francs. The remaining companies—the newer and smaller ones—reported no profits for the years mentioned. Whether there was a subsequent decline of profits to justify *The West African Mail's* assertion that the companies became "unable to make both ends meet" cannot be determined from any reports now at hand. But the accompanying comparative

	Jan 1901	Jan 1902	Nov 1901
Haut-Congo, pref.	530.	527.50	—
Do ord.	—	—	222.50
Prod. Veget., pref.	170.	185.	95.
Do ord.	133.	117.50	77.50
Lubefu, pref.	100.	200.	455.
Do ord.	450.	605.	315.
Lacourt, pref.	210.	207.75	27.50
Belgika, pref.	90.	74.	37.50
Do ord.	750.	525.	212.50
Kassaienne ord.	—	115.	—
Est Kwango, pref.	75.	14.	—
Do ord.	—	1.	—
Loanje, pref.	1.	102.	—
Mag. Généraux	10.	57.	215.

Grisar & Co.'s annual review of the Antwerp rubber market for 1902—an admitted authority—mentioned the Compagnie du Kasai as "now resuming operations in Africa after some months of inactivity in the district under its control." Yet the arrivals of rubber at Antwerp during 1902 to the credit of the Belgian companies above named amounted to 941,405 kilograms [= 2,071,091 pounds], against 1,063,815 kilograms [= 2,340,393 pounds] in 1901—a decline of only 11½ per cent. in a year when the total arrivals from the Congo Free State showed a decline of 9½ per cent. from the preceding year. It must be considered, however, that all the rubber gathered is not marketed in the same year, and *The West African Mail* has reports that the collection of rubber by the Kasai group of companies during 1902 amounted to 565,000 kilograms.

Evidently the Kasai still affords a rich rubber field, or the state would not care for shares in the companies trading there. And it would not seem natural for the companies to surrender half their profits if absolute "freedom of trade" prevailed in that region. It is believed that the Congo Free State now holds shares, to the extent of 50 per cent. or more, in all the companies trading in its domains, with the exception of the narrow strip south of the Congo, near the Atlantic. Which constitutes without doubt the most extensive "corner" in rubber that ever existed.

## RECENT RUBBER PATENTS.

## THE UNITED STATES PATENT RECORD.

ISSUED MAY 5, 1903.

- N**O. 726,885. Golf or other club [with Gutta-percha and India-rubber core for driving face]. John D. Dunn, Los Angeles, California.
- 726,889. Artificial foot. George F. Ehrle, Milwaukee, Wisconsin.
- 726,904. Horseshoe. Frederick T. Giles, Bristol, England.
- 726,951. Skirt lifter. Evert Lautenbach, Chicago, Illinois.
- 727,031. Electric conductor or cable. Francis Tewmain, Highgate, England.
- 727,076. Vehicle tire [with inner-tube of spring metal]. Rufus W. Brooks, Portsmouth, Virginia.
- 727,198. Playing ball. Francis H. Richards, Hartford, Connecticut, assignor to The Kempshall Manufacturing Co.
- 727,199. Playing ball. Francis H. Richards, Hartford, Connecticut, assignor to The Kempshall Manufacturing Co.
- 727,200. Playing ball. Francis H. Richards, Hartford, Connecticut, assignor to The Kempshall Manufacturing Co.
- 727,201. Playing ball. Francis H. Richards, Hartford, Connecticut, assignor to The Kempshall Manufacturing Co.
- 727,202. Playing ball. Francis H. Richards, Hartford, Connecticut, assignor to The Kempshall Manufacturing Co.
- 727,295. Tire fastener. Ralph M. Connable, Baltimore, Maryland.
- 727,296. Vehicle tire and fastening therefor. Ralph M. Connable, Baltimore, Maryland.
- 727,311. Cylinder and piston packing. John E. Douglas, Birmingham, and George W. Hays, Avondale, Alabama.
- 727,318. Life preserver. John A. Elenius, Calumet, Michigan.
- 727,383. Joint for artificial limbs. Edward Koeber, Chicago, Illinois.
- 727,398. Rubber tip attachment for lead pencils. Ernest U. Mack, Florence, South Carolina, assignor to Eagle Pencil Co., New York city.
- 727,482. Hose coupling. Thomas Strba and Samuel Strba, Allegheny, Pennsylvania.
- 727,542. Process of making playing balls. Eleazer Kempshall, Boston, Massachusetts.
- Trade Mark.*
- 40,246. Rubber hose. Capen Belting and Rubber Co., St. Louis, Missouri. *Essential feature*—The combination of letters "Ne pac" Used since July 1, 1901.

ISSUED MAY 12, 1903.

- 727,582. Rubber cushion tire for vehicles. Archibald H. Brintnell, Toronto, assignor to Donald James McKinnon, St. Catharines, Canada.
- 727,664. Machine for covering rollers with India-rubber or like materials. Robert Milne, Edinburgh, Scotland.
- 727,746. Tire fastening. John F. Byers, Ravenna, Ohio.
- 727,756. Device for reinsulating electric and aerial telephone or other cables. John Daggett, assignor to one-half to Morgan H. Landers, both of Elyria, Ohio.
- 727,829. Cable terminal. Joseph J. O'Connell, Chicago, Illinois, assignor to American Telephone and Telegraph Co., New York.
- 727,835. Horseshoe. John C. Piper and James I. Piper, Buffalo, New York.
- 727,858. Hose or pipe coupling. Henry A. Stier, Warren, Pennsylvania.
- 727,877. Rubber tire [of solid rubber, with bearing plates embedded therein, and a longitudinal retaining wire, resting above said plates.] Robert Austin, Brooklyn, New York.
- 728,009. Tire. Gus H. Raflovich, Boston, Massachusetts.
- 728,015. Insulating joint. James T. Robb, assignor to the Mitchell Vance Co., both of New York city.
- 728,106. Resilient tire [of rubber and spring metal sections combined]. Anthony W. Hockman, Clarksburg, West Virginia.
- 728,152. Insulating means for electrical apparatus. Asa F. Batchelder, Schenectady, New York, assignor to General Electric Co.

*Trade Mark.*

- 40,366. Dress shield. The Canfield Rubber Co., Bridgeport, Connecticut. *Essential feature*—The representation of a shield inclosed in a circle, the shield bearing the representation of two chrysanthemums on a common looped stem and the word "Hicks," in the fac simile or autograph signature of Ratcliffe Hicks, president of the corporation. Used since December 10, 1902.

IS. L. MAY 19, 1903.

- 728,328. Atomizer. Charles A. Tatum, New York city, assignor to Whitall Tatum Co.
- 728,351. Rubber disk attacher for bottle stoppers. Theodore H. Alcorn, Kansas City, and Earl L. Chatfield, Mt. Washington, Missouri.
- 728,439. Paint spraying apparatus. Reginald W. Bird, Boston, Massachusetts.
- 728,442. Electric insulator. Edward J. Batke, assignor of one half to John E. Cummings and Peter W. Anderson, both of Olyphant, Pennsylvania.
- 728,476. Protective hood. Esther Langer, Brooklyn, New York.
- 728,490. Rubber tire wheel. Richard Mulholland, Dunkirk, New York.
- 728,507. Composition for use in the manufacture of linoleum or like coated fabrics. James A. Shepherd, Glasgow, Scotland.
- 728,678. Resilient tire. Lincoln C. Cummings, Pasadena, California.
- 728,696. Hose coupling. Frederick G. Frankenberg and Alfred P. Miller, assignors to Flexible Armored Hose Co., both of Chicago, Illinois.
- 728,745. Life preserver. William N. Morrison, St. Louis, Missouri.
- 728,773. Nailless horseshoe. Josiah Serfass, Hazelton, Pennsylvania.
- 728,776. Tire fastener. Joseph B. Smith, assignor of one half to L. G. Pullen, both of Havana, Illinois.

ISSUED MAY 26, 1903.

- 728,851. Vulcanized "Kerite" compound. William R. Brixey, Seymour, Connecticut.
- 728,980. Surgical applicator. Elzie L. Ridgway and Daniel H. Bailey, Denison, Texas.
- 729,011. Hypodermic syringe. Charles Tagliabue and Frederick W. Steuer, Brooklyn, New York, said Steuer assignor to said Tagliabue.
- 729,064. Dumb bell. Frank W. Hale, Boston, Massachusetts.
- 729,139. Fountain pen. John H. Crowell, Vineyard Haven, Massachusetts.
- 729,171. Electric heating fabric. Joseph M. C. Herrgott, Valdoie, France.
- 729,311. Compressible tire for vehicles. Henry P. Feister, Philadelphia, Pennsylvania.
- 729,314. Shoe. Herman Fischer, New York city.
- 729,385. Vehicle wheel. William Morrison, Chicago, Illinois, assignor to the Helios-Upton Co.
- 729,479. Hose coupling. Jacob Wittman, Pittsburg, Pennsylvania.

## THE BRITISH PATENT RECORD.

[\* Denotes Applications from the United States.]

APPLICATIONS—1903.

- 6,808. G. H. Raflovich, 55, Chancery lane, London. Resilient tire for vehicles. Mar. 24.
- 7,207. O. G. Zipser, 40, Chancery lane, London. Rubber tired wheel. Mar. 27.
- 7,381. W. J. Armes, 4, South street, Finsbury, London. Heel pads for boots. Mar. 30.
- 7,416. A. C. Hills and W. C. Allen, Coventry. Pneumatic tire and rim for the same. Mar. 31.
- 7,430. M. Peters, Glasgow. Pneumatic tire. Mar. 31.
- 7,468. B. Kempner, Chancery lane, London. Ventilation of waterproof garments. Mar. 31.
- 7,521. A. R. Spear, Strand, London. Golf ball. Mar. 31.
- 7,550. A. Yeates, Doverdale, Cheltenham. Spring-spring tire. April 1.
- 7,583. I. Tennant, 18, Buckingham street, London. Pneumatic tire. April 1.
- 7,678. E. Ferry and J. T. E. Jones, Paddington, London. Wire cover for pneumatic tires, to prevent slipping. April 2.
- 7,686. W. Wandless, 18, Southampton buildings, London. Non-skidding and puncture proof tire. April 2.
- 7,708. H. S. Burton, 173, Fleet street, London. Syringe. April 2.
- 7,725. H. Thorp and H. F. Copley, Huddersfield. Manufacture of hose and pneumatic tires. April 3.
- 7,805. A. Vickery, 70, Chancery lane, London. Pneumatic tire. April 3.
- 7,810. E. A. Seddon, Manchester. Pneumatic tire. April 4.
- 7,856. J. Johnson, Fulham, London. Elastic tire and metal rim. April 4.
- 7,865. L. Peter, 53, Chancery lane, London. Manufacture of repair



- saps for the inner tubes. Communicated from Germany. April 4.
- 7,952. J. Johnson, 18, Buckingham street, London. Pneumatic foot. April 6.
- \* 7,959. W. J. Kent, 70, Chancery lane, London. Hoof pad. April 6.
- 7,977. G. W. White, 1, Lincoln Inn's fields. Hose coupling. April 6.
- 7,974. J. R. Hayne, 18, Southampton buildings, London. Pneumatic hub for vehicle wheels. April 6.
- 8,038. A. W. Benjamin, 78, Fleet street, London. Golf ball. April 7.
- 8,037. R. H. Bicknell, Palace chambers, Westminster, London. Tire for motor cars. April 7.
- 8,062. P. F. Woods, 18, Southampton buildings, London. Golf ball. April 7.
- 8,063. L. F. Sachs, 18, Southampton buildings, London. Tire for cycles and motors. April 7.
- 8,065. L. F. Sachs, 18, Southampton buildings, London. Golf ball. April 7.
- 8,087. J.-N. Dages, 22, Southampton buildings, London. Cushion tire for vehicles. April 7.
- 8,115. J. Pattison, Glasgow. Golf ball. April 8.
- 8,117. P. W. Meyer, and O. E. Kellermann, 18, Buckingham street, London. Pneumatic tire. April 8.
- \* 8,311. Raymond B. Price, 19, Holburn viaduct. Golf ball. April 9.
- 8,410. S. G. Board, Manchester. Tire for motors. April 14.
- 8,420. R. McC Service, Glasgow. Enema syringe. April 14.

## PATENTS GRANTED.

[AMERICAN PATENT OFFICE.]

- 24,793 (1901). Preserving India rubber. [A mixture of 95 parts soda ash and 5 parts commercial carbonate of ammonia is dissolved in hot water and applied to tires or other rubber articles to be preserved or restored.] T. E. Truss and G. H. Moore, Chester.
- \* 24,833 (1901). Spring tires for vehicles with rubber tread. C. H. Paschke, Buffalo, New York.
- 24,842 (1901). Medical syringe. J. J. Seguiet, St. Yrieux, France.
- 24,911 (1901). Pneumatic tire [with the part of the air tube which lies within the rim made stiffer than the other part to prevent damage by being nipped in the cover or rim]. H. Falconnet and M. Pérodeaud, Choisy-le-Roi (Seine), France.
- 24,912 (1901). Pneumatic tire [with combined metal and fabric strip to prevent punctures]. H. Falconnet and M. Pérodeaud, Choisy-le-Roi (Seine), France.
- \* 24,924 (1901). Elastic tire [formed of a rubber cover and a core of cellular rubber or cork]. C. Hird, Woonsocket, Rhode Island.
- \* 25,200 (1901). Pessary [of hard rubber]. J. R. Lang, Rockport, Indiana.

[AMERICAN PATENT OFFICE.]

- 25,517 (1901). Pneumatic tire [relates to attaching to rims protected tires]. W. P. Thompson, London. (J. P. LeGrand, Levallois-Perret (Seine), France.)
- 25,547 (1901). Dental vulcanizing flask. W. P. Stock, Glasgow.
- 25,707 (1901). Hoof pad. R. E. Clement, Bournemouth West, Hampshire.
- \* 25,769. Chemical discharge apparatus. [This device is sold in the United States as the "Son of a Gun" pistol.] Russell Parker, Brooklyn, New York.
- 25,800 (1901). Pneumatic tire [relates to detachably connecting the ends of double ended air tubes]. C. E. A. Esse, Ormskirk, Lancashire.
- 25,819 (1901). Pneumatic tire [the air tube is protected by interposing between it and the outer cover a puncture resisting strip of fabric]. M. Dawson, Southport, Lancashire.
- 25,969 (1901). Pneumatic tire [relates to means for attachment to the wheels of motors]. Louis Peter, Frankfort o/M, Germany.

[AMERICAN PATENT OFFICE.]

- 26,331 (1901). Pneumatic tire [the internal space filled with small air tight rubber chambers containing air under pressure, so that when one becomes punctured the others expand to fill up the space]. F. Mitchell, Hammersmith, Middlesex.
- 26,445 (1901). Vehicle tire [solid rubber, held on with two wires covered and connected by canvas strips, after which the groove is filled with rubber]. A. E. Walker and Charles Macintosh & Co., Limited, Manchester.
- \* 26,718 (1901). Air mattress. C. C. Henderson, No. 315 Dearborn street, Chicago, Illinois.

[AMERICAN PATENT OFFICE.]

- 26 (1902). Pneumatic tire [with elastic core]. J. P. LeGrand and N. Chenaue, Levallois-Perret (Seine), France.
- \* 152 (1902). Golf ball. P. M. Justice, London. (Cleland Davis, Washington, United States)
- [AMERICAN PATENT OFFICE.]
- \* 316 (1902). Rubber ball, mounted on the front end of a carriage pole to prevent shock in case of collision. E. G. Johnson, No. 1422 Euclid avenue, Philadelphia.
- 347 (1902). Dental vulcanizer. J. S. Campbell, 11, Pall Mall, London.
- \* 444 (1902). Vehicle tire [solid rubber, with the base portion stiffened either by greater vulcanization or embedding in it transversely placed wires]. Raymond B. Price, No. 407 Dearborn avenue, Chicago, Illinois.

## THE GERMAN PATENT RECORD.

PATENTS GRANTED.—1903.

- 142,659 (Class 39b). Process for making rubber sponges. [See THE INDIA RUBBER WORLD, June 1—page 301.] Vereinigte Gummiwaaren-Fabriken, Harburg-Wien, Harburg a/Elbe. May 6.
- 142,676 (Cl. 45i). Elastic subsole for horseshoes, consisting of a rubber plate between hoof and shoe, upon which is a soft rubber pad. G. Topp, Frankfort a/M. May 6.
- 142,985 (Cl. 70b). Penholder having elastic core as base for pen. E. Fischer, Vienna. May 20.

## DESIGN PATENTS [GEBRAUCHSMUSTER].

- 197,284 (Class 3b). Rubber raincoat without side or back seams, cut of one piece with front and back widths united at the shoulders. Vereinigte Gummiwaaren-Fabriken, Harburg-Wien, Harburg a/Elbe. April 29.
- 196,717 (Cl. 42b). Frame for eyeglasses with rubber tubular nose piece. P. Pesenecker, Rathenow. April 29.
- 197,465 (Cl. 71a). A boot of woven material saturated with a solution of rubber, having inner sole, toe cap, and heel of leather. F. Schürr, Munich. April 29.
- 197,832 (Cl. 21b). High tension electric cell of the Bunsen type, completely sealed with rubber. Boettcher and Quarck, Munich. May 6.
- 196,868 (Cl. 33b). Rubber holder with flat hook closure for umbrellas. F. Göhns, Celle. May 6.
- 198,221 (Cl. 3b). Extension girdle or belt, the elastic insert of which is covered with a squamiform texture. H. Posner, Berlin. May 13.
- 198,531 (Cl. 45i). Interchangeable pad for horse's hoof, having rubber frog and adjustable angular bridge. H. Fischer, Frankfort a/M., and F. M. Hilberts, Remscheid. May 13.
- 198,508 (Cl. 47g). Metal cocks, valves, etc., the inner walls, pins, stems, etc., of which are lined with hard rubber or composed wholly of it. F. Dürholdt, Barmen. May 13.
- 198,493 (Cl. 63e). Air tire consisting of an inner tube covered with a tread of sponge rubber. J. Hübner, Kirschenrode, near Hannover. May 13.
- 198,507 (Cl. 63e). Wheel-tire of a perforated rubber core protected by strips of spirally wound canvas. P. Müller, Berlin. May 13.
- 198,656 (Cl. 71a). Surgical-operating-shoe. Frau E. Jacoby, Berlin. May 20.
- 198,865 (Cl. 77f). Child's rubber rattle with teething ring and speaking reed. Phil. Penin, Gummiwaaren-Fabrik A.-G., Liepsig-Plagwitz. May 20.
- 199,204 (Cl. 15b). Rubber stamp having elastic base, of two covers connected by several uprights. M. Putzrath, Berlin. May 27.
- 199,536 (Cl. 71a). Rubber overshoe, with rubber inner walls for surgical operating purposes. Vereinigte Gummiwaaren-Fabriken, Harburg-Wien, Harburg a/Elbe. May 27.
- 199,187 (Cl. 71b). Interchangeable elastic rubber rim adapted to fit a raised plate on heels of boots. B. Thum, Wittenberg. May 27.

## APPLICATIONS.

- 19,071 (Class 39a). Process and apparatus for vulcanizing articles made of rubber. B. W. Wittenberg, Erwin Brock, and Erwin Koch, Riga, Russia. May 13.
- 31,287 (Cl. 77a). Apparatus for athletic exercise, with elastic cords. T. Barth, Jülich. May 13.
- 12,906 (Cl. 30d). Plunger for syringe with rubber packing. Frau R. Dert, Berlin. May 13.
- 16,381 (Cl. 63e). Pneumatic tire having a corrugated protective tread. J. F. Lober, Pittsburgh, Pennsylvania. May 20.
- 19,943 (Cl. 63e). Rubber tires with depressions on tread, adapted for heavy vehicles. W. O. Worth, Chicago, Illinois. May 20.

WE MANUFACTURE  
**Everything in Rubber**

**MECHANICAL RUBBER GOODS**

Hose, Belting, Packing, Valves  
Gaskets, Mats, Matting, Etc.

**DRUGGISTS', SURGEONS' AND STATIONERS'  
RUBBER SUNDRIES**

**BICYCLE TIRES**

**SOLID RUBBER VEHICLE TIRES**

**CLINCHER AUTOMOBILE TIRES**

**HASKELL GOLF BALLS**



***The* B. F. GOODRICH COMPANY**

AKRON RUBBER WORKS

**AKRON, OHIO**

NEW YORK, 66-68 Reade St.

CHICAGO, 141 Lake St.

PHILADELPHIA, 922 Arch St.

BOSTON, 157 Summer St.

BUFFALO, 9 W. Huron St.

DETROIT, 80 E. Congress St.

DENVER, 1444 Curtis St.

SAN FRANCISCO, 392 Mission St.

LONDON, 7 Snow Hill, E. C.



# Interlocking Rubber Tiling.



As laid down in the Dining Room of the Hotel Essex, Boston, Mass.

It is noiseless, non-slippery, waterproof, thoroughly sanitary and so durable as to last practically a life time without requiring repairs. It may be laid directly upon existing floor, whether of wood, cement, stone or iron, therefore saving the expense of constructing a concrete floor which is absolutely necessary in all other kinds of tiling.

A perfect floor for business offices, banking rooms, court rooms, vestibules, halls, billiard rooms, smoking rooms, cafes, libraries, churches, hospitals, hotels, bathrooms, kitchens, etc.

Samples, estimates and special designs furnished upon application.

SOLE MANUFACTURERS,  
**New York Belting and Packing Co., Ltd.**  
 25 PARK PLACE, NEW YORK.

BALTIMORE, 41 South Liberty Street. BOSTON, 232 Summer Street. PHILADELPHIA, 724 Chestnut Street. INDIANAPOLIS, 229 S. Meridian Street.  
 SAINT LOUIS, 411 N. 3d Street. CHICAGO, 150 Lake Street. SAN FRANCISCO, 509-511 Market Street.

*Mention The India Rubber World when you write.*

## ⇒ RUBBER BELTING ⇒

for Elevator, Thresher, Saw and Planing Mill Work.

*“Warranted 2XL,”*

*“Shield High Grade,”*

*“Cleveland Stitched,”*

*“Buckeye.”*

Good belting at low cost is the result of experience and up-to-date equipment—WE HAVE BOTH.

We also make a complete Line of Steam, Fire, Suction and Conducting Hose, Packings, and Molded Goods.

SEND FOR 120 PAGE CATALOGUE.

**THE MECHANICAL RUBBER CO.,**

. . . . CLEVELAND, OHIO.

*Mention The India Rubber World when you write.*

## NEW GOODS AND SPECIALTIES IN RUBBER.

## THE FAWKES AIRLESS TIRE.

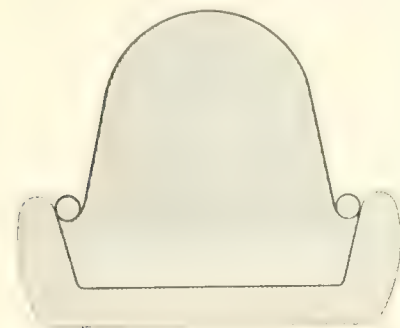
THIS is a tire patented by parties in Denver, Colorado, who have been encouraged by the results of its use on vehicles for some months past to organize a company for introducing it on the market. Their tires have been made thus far at Akron, Ohio, but the plans of the company extend to the establishment of a factory in Denver, if a sufficient demand for the new article should develop.



The sectional view of the tire herewith indicates so fully the form of the tire that little description is necessary. It may be mentioned, however, that the features to which attention is called are lightness and easy riding, without possibility of puncture or liability to rim cut or creep, as the tire is elastic and hugs the rim closely. They are also mentioned as being so made as to insure durability. The tires are offered for use on bicycles as well as automobiles and other vehicles. [The Fawkes Rubber Co., No. 1526 Stout street, Denver, Colorado.]

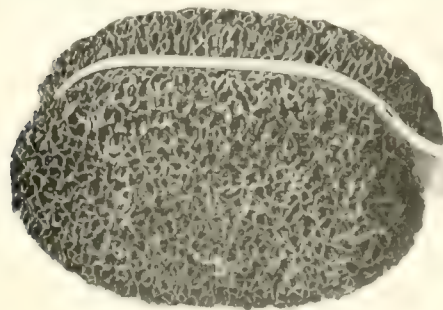
THE MACMAHON SOLID RUBBER VEHICLE TIRE.

THIS tire is absolutely solid throughout, without wire holes or steel cross pins. It is so constructed and applied to the channel that the base remains in its original position and condition until the tread is worn down and out. Its construction involves a waterproof fabric hose, and the means for retaining it in place is a longitudinal wire, on either side, resting upon a projection of the tire and against the flange of the



MacMahon Patent.

steel channel. The MacMahon tire is made in standard sizes and is adapted to all styles and weights of vehicles. [Penrose & Langmuir, No. 1616 Broadway, New York.]



## MEANS OF ATTACHING TIRE TO RIM.

THE invention of Francesco Toni [United States patent No. 720,639] relates to a method of attaching the covers of rubber tires to wheel rims or fellys, and more particularly to the attachment of heavy tires to wooden fellys.

FIG 1

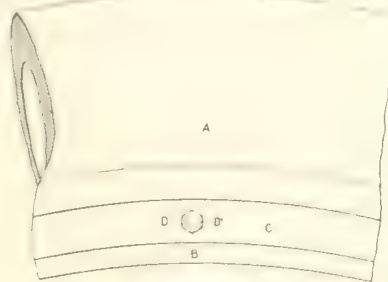
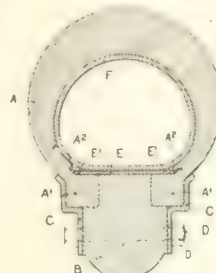


FIG 2



The edges of the tire cover are formed with enlarged beads—preferably of square cross section. The wood felly is channeled or rabbeted at its outer edge to receive the beads, which are kept in place by annular shaped rings on either side of the felly and attached thereto by bolts, as indicated in Fig. 2 of the illustration.

There is also provided a flat plate, the edges of which overhang the channels or rabbets of the wood felly and engage the top edges of the beads. This flat plate is permanently fixed to the wood felly by means of screws or otherwise. The tire, when in position, being thus tightly clamped, all possibility of creeping, it is claimed, is avoided. In order to obtain access to the inner tube, it is necessary only to remove one of the side rings, so as to allow one of the beaded edges of the tire to be removed from the channel.

## HART'S RUBBER SPONGE-BATH BRUSH.

A VALUABLE adjunct to the rubber sponge is the aluminum or wood holder which the illustration shows. It is really an exceedingly practical thing, as the sponge can be attached to the holder, or taken out with the greatest ease. To accomplish this it is only necessary to have the rim of the holder in the center of the sponge, the elasticity of the rubber keeping it in place perfectly. To remove it, simply press together the sides of the holder at the top. By the use of this holder the wear and tear is saved in a marked degree, and the whole combination is particularly neat and effective. [Smith, Kline & French Co., No. 435 Arch street, Philadelphia.]

A CORRESPONDENT of THE INDIA RUBBER WORLD, on a recent visit to the maple sugar camps of northern Ohio, was much impressed by the number of rubber boots he saw in use there. Men, women, and children wore them, including little boys and girls of four and five years. They are recognized parts of the equipment for work in sugar making, no less than are the evaporators, buckets, and syrup cans. Felt and leather

boots may be worn in winter, but for the mud and water which must be encountered in the woods in spring nothing but rubber boots will answer.





## THE RUBBER TRADE IN AKRON.

A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The Firestone Tire and Rubber Co. on June 5 obtained in the United States court for the northern Illinois district, at Chicago, a decision in their favor in a suit brought to restrain the Union Tire and Rubber Co. (Chicago) from the manufacture and sale of tires alleged to infringe on the Swinehart side wire patent granted May 16, 1899. Suit was commenced by the Firestone company against the Union Tire and Rubber Co., and John W. D. Carslaw, their general manager, and other officers of the company, in June, 1901. The decree just entered perpetually enjoins the defendant company from manufacturing or selling the tires found to infringe on the Swinehart patent, and Elisha B. Sherman is appointed by the court to take an accounting of the profits of the Union company and determine the damages due the plaintiffs. The defendant company are understood to have discontinued business. They were not represented by counsel at the final hearing in court. The tires which infringed were made for them by others.

\* \* \*

VICE PRESIDENT B. G. WORK, of The B. F. Goodrich Co., returned during the month from a visit of six weeks in England and the continent, on which he was accompanied by Mrs. Work.<sup>1</sup> It was while Mr. Work was in London that the St. Andrew's Golf Association, the organization of professional golf players in England, rescinded their action of the past winter in barring the Haskell golf ball from their play. Their action pleased Mr. Work, one of the inventors of the Haskell ball and manager of the Haskell Golf Ball Co., very much, but it did not surprise him. Golfers in general and public sentiment had been in favor of the Haskell ball all along, and even the most powerful organization known to the game could not withstand such a combination. The B. F. Goodrich Co. will continue to manufacture the Haskell ball for the Haskell Golf Ball Co., which will supply the foreign trade.

\* \* \*

THE annual picnic of the Goodyear Tire and Rubber Co.'s employes is scheduled for June 27 at Silver lake. Richard Whittlesey, of the shipping department, is in charge of the arrangements which, if the weather permits, will have been most pleasantly carried out by the time THE INDIA RUBBER WORLD reaches its readers. The employes of the Buckeye Rubber Co. will, as in former years, join the Goodyear workers in their annual outing. —The employes of the Whitman & Barnes Manufacturing Co. will hold their annual picnic under the auspices of the Whitman & Barnes Relief Association, at Conneaut lake, on Saturday, July 11. Foreman George S. Whitney will be master of ceremonies. —The Diamond Rubber Co. workers' picnic will be late this year—perhaps not until August. Foreman M. Flynn, of the tire department, has the arrangements in charge. —The annual picnic of The B. F. Goodrich Co. will be held at Silver lake on Saturday, August 1. As usual the company will provide free transportation for all employes and their families.

\* \* \*

THE Goodyear Tire and Rubber Co. have added 500 H.P. to their power capacity within the past few weeks, making 2000 H.P. all told. They have doubled their capacity in this respect during the past year.

The Firestone Tire and Rubber Co. are making a number of eight inch solid tires for use on the heavy motor trucks of a large St. Louis brewing company, which are said to be the largest rubber tires ever manufactured. The Firestone company

are also making some extraordinarily heavy tires for use on fire department apparatus. The engines and trucks of the Newark, (New Jersey) fire department will be equipped throughout with this company's tires.

The whole plant of the Whitman & Barnes Manufacturing Co. in Akron is now devoted to the manufacture of twist drills and high grade rubber mechanicals. Orders for the cheaper goods are being steadily refused. The policy of producing only the higher class goods has been found entirely successful, the business increasing remarkably.

The Lilly Rubber Manufacturing Co., who began business in Barberton in March, have an exceptionally neat and practical plant. It is well situated as to transportation facilities and well equipped. The company will soon begin producing an extensive line of molded goods in addition to their dipped work.

Harry C. Miller, formerly of The B. F. Goodrich Co., but for some time active in the Union Rubber Co., the only rubber jobbing concern in Akron, has accepted the management of the Detroit branch of the Goodrich company, succeeding Harry G. Miller, resigned.

S. J. Carkuff, after a year's absence from the rubber trade, in business on his own account in Chicago, has returned to the Firestone Tire and Rubber Co., with which he was formerly connected, as assistant manager.

I. R. Bailey, formerly of the Clifton Manufacturing Co. (Boston), is making a distinct success of the hard rubber department of The Diamond Rubber Co. One of their main products is insulating tapes.

Sales Manager H. E. Raymond, of The B. F. Goodrich Co., will leave on July 2, to spend a two months' vacation in England and on the continent. Mr. Raymond was invited to address a convention of rubber jobbers at Niagara Falls on July 8, but his plans were such that he could not remain for the meeting.

Mr. W. Tischbein, sales agent of the Continental Caoutchouc- und Guttapercha-Co. (Hanover, Germany), visited Akron rubber factories on June 16 and 17. He was accompanied by his wife, this being their wedding trip. They were entertained at the homes of Messrs. R. P. Marvin, B. G. Work, and J. A. Swinehart.

F. A. Seiberling, general manager of the Goodyear Tire and Rubber Co., has been spending the latter part of June at his island, Kaukenagea, near Mackinac, Michigan. His family are there for the summer, and Mr. Seiberling will be a frequent visitor.

J. A. Artley, of the offices of The Diamond Rubber Co., has been made assistant cashier of the Guardian Savings Bank of Akron.

Dr. L. E. Sisler, treasurer of the Firestone Tire and Rubber Co., has been chosen treasurer of the Dollar Savings Bank which recently opened for business in Akron.

It is reported that a number of rubber manufacturers, some of them in Akron, have been "taken in" by a person who has sold them what purported to be the formula for the Russian rubber sponge, but proved practically worthless.

The Akron Machine Co., placed in the hands of a receiver on March 13, was declared bankrupt by Referee D. A. Doyle on June 18. Creditors will meet June 30. The schedule filed shows assets of \$108,143.93 and liabilities of but \$34,357.09.

The Garlock Packing Co., of Cleveland, and the Akron rubber concerns made good exhibits at the annual meeting of the Association of Stationary Engineers of Ohio in Akron, on June 17-18.

R. L. Chipman, local representative of George A. Alden & Co. (Boston), won the spring championship of the Portage Golf



Club in the final play on June 18, defeating the former champion, George D. Dates. This is the first time within a couple of years that the championship has come to one connected with the rubber trade in Akron.

The golf club organized by Goodyear Tire and Rubber Co. office men now numbers 35 members and they have a first class six hole course. C. W. Seiberling holds the spring championship. The Goodyear company are manufacturing the Saunders compressed air ball, but not pushing it hard this season.

A considerable number of bicycle tires for wheels to be sold in China and Japan are being made in Akron. In the latter country a fair trade is developing, though both the Chinaman and Jap buy only the cheap grades. Manufacturers express a strong preference for the Japanese as people with whom to do business as compared to the sons of the Flowery empire.

J. K. Williams, of the Williams Foundry and Machine Co., is an enthusiastic member of the Akron Gun Club, and was among those who attended the Ohio state trap shoot at Cincinnati the week of June 8. The next state shoot will be held in Akron.

Miss Myrtle C. Wild, daughter of Mr. W. L. Wild, local manager of The India Rubber Co., was married on the evening of June 10 to Mr. Frank C. Blanchard, of the office force of the Whitman and Barnes Manufacturing Co. It was one of the largest weddings of the year in Akron. As a climax to the evening's festivities at the Wild home, the bride and bridegroom were suddenly missed, when it was discovered that, with the assistance of Mr. A. H. Marks, of the Diamond Rubber Co., whose home adjoins the Wild residence, they had escaped in an automobile to Cuyahoga Falls, there to take a train, thus avoiding the shower of too emphatic best wishes.

Charles E. Sheldon, president of the Whitman and Barnes Manufacturing Co., was chosen as one of the three trustees in the bankruptcy proceedings against the Aultman, Miller & Co. at a meeting of creditors on June 9. The claims against the concern are approximately \$2,900,000 and the election of trustees developed a spirited contest.

## THE RUBBER TRADE IN TRENTON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: There was a strike of short duration at the middle of the month, in the factory of the Whitehead Brothers Rubber Co. Walter Hughes, the head baler, asked for an increase of wages, which was denied by the superintendent, whereupon Hughes resigned and his assistant, Isaac Stelle, was promoted to his place. An hour later the entire factory force went on strike, leaving the works. The next day three employes, comprising the shop committee of the local rubber workers' union, conferred with a member of the firm and the superintendent, with the result that the former conditions were restored—Hughes returning to work at his former wages, and the men agreeing to refer any former grievances to the shop committee before taking action. This strike was in no sense the work of the union, but was entirely local to the Whitehead factory, and was settled before the union had official notice of its existence.

The Eureka Fire Hose Co., of New York and Jersey City, have brought action in the New Jersey court of chancery against The Eureka Rubber Manufacturing Co. of Trenton, N. J., to have the latter enjoined from the use of the word "Eureka" in advertising their products, particularly in the marketing of fire hose, and further to be restrained from using the name "Eureka" in their title as a corporation. Messrs. Crouse & Perkins, of Jersey City, are counsel for the complain-

ants, and former Judge William M. Lanning, of Trenton, represents the local concern. Acting for his clients, Judge Lanning has filed his answer to the allegation of the New York company, in the course of which it is denied that the Eureka Fire Hose Co. have acquired the right to the exclusive use of the work "Eureka" as a trade name for their products. It is also denied that the Trenton company have advertised goods under the name "Eureka" stamped with the single word as a trade mark. Continuing, the answer says: "That at the time of its incorporation the local company made application to the secretary of state to ascertain if any like company had been incorporated under the name 'The Eureka Rubber Manufacturing Co.' The information was that no such name appeared in the list of corporations. The name was then adopted and the secretary of state granted a certificate."

The protracted dry spell of April, May, and the first part of June resulted in the local rubber factories being kept unprecedently busy in supplying the sudden demand for garden and sprinkling hose. Mr. W. J. B. Stokes, of the Home Rubber Co., states that the demand for such hose has never been equaled. Mr. C. Edward Murray, of the Empire and the Crescent rubber companies, said that their employes were compelled to work overtime daily to keep up with the orders. Other mills report a similar condition of affairs. The heavy rains have broken the demand, however, and this particular line of trade has dropped back to its normal state.

In certain departments the Modern Rubber Manufacturing Co. has fully recovered from the effects of the fire which totally destroyed the plant last fall, and these departments are being operated on full time. Some of the damaged machinery has not yet been overhauled and the work of this is being done at the factory of Whitehead Brothers.

W. H. Harding, president of the Union Rubber Co., which was established as a selling agency last August, reports that already the volume of business done by the firm has exceeded the most sanguine expectations. During the last few months, Mr. Harding states, the orders have been three times what was anticipated. The company handles a line of oil cloths and linoleums, besides its rubber business.

Harry E. Evans, manager of the Consolidated Rubber Co., which is exclusively a selling concern, reports business as being on a very satisfactory basis. This company has a fine suite of offices in the Broad Street National Bank building. Mr. Evans is chaplain of the New Jersey Assembly of the National Union and took a prominent part in the meeting of the assembly in this city on June 16.

A building of historic interest to the local rubber industry was torn down early in June to make way for improvements. This was the old structure on Clinton avenue, opposite the Hamilton Rubber Manufacturing Co.'s plant. It was the second building in Trenton to be devoted to the manufacture of rubber goods, and was operated as a rubber mill by the late Charles V. Mead. Later Mr. Mead moved his machinery to the basement of the old grist mill further out on Clinton avenue, and thus laid the foundation for the present factory of the Empire Rubber Manufacturing Co. The property is owned by the Trenton Potteries Co., and the old building was torn down to be replaced by a large brick stable and storage building. The first building in the city to be used for the manufacture of rubber goods was located in South Trenton and was torn down a few years ago to make room for an extension to the Woodhouse chain works.

William A. Howell, superintendent of the Whitehead Brothers Rubber Co.'s factory, is one of the veterans of the industry here. He has been with the Messrs. Whitehead continuously

for twenty-two years and has been superintendent for over twelve years. Mr. Howell owns an attractive home in the eighth ward, and represented his ward in the city council in 1890-94.

The Reliance Rubber Co., the new manufacturing concern mentioned in this column last month, was delayed somewhat in beginning operations, owing to the need of repairs to the power plant which were not at first thought necessary. The company hope to be in full running order, with their water power in first class condition, by July 1. William R. Thropp (Trenton) supplied the Reliance company with a 40 × 40 platen hydraulic press and a screw press.

The plant of William R. Thropp, by the way, has been extremely busy all the spring and summer with work on rubber machinery and other special contracts. The shop has been operated night and day much of the time.

The Hamilton Rubber Manufacturing Co. have received a new 74 inch three platen heavy belting press built by the Farrel Foundry and Machine Co. (Ansonia, Connecticut). The company have had in contemplation for some time past an extensive addition to their mill, but the matter has been delayed on account of unsettled labor conditions.

The Mercer Hospital fair, held during the last four days of May, and to which donations of cash or material were made by most of the local rubber companies, resulted in net profits of \$2500.

The net receipts at the Memorial day picnic of the local rubber workers' union amounted to \$478. Over 400 members, headed by the Naval Reserve band, and a delegation of the Central Labor Union paraded to the grounds.

The De Laski & Thropp Circular Woven Tire Co., with an authorized capital of \$100,000, was incorporated in the county clerk's office at Trenton on June 25. By the articles of incorporation the purpose of the company is declared to be "to manufacture automobile and other circular woven tubular fabrics." The concern begins business with \$10,000 paid in. The incorporators are Albert De Laski, Weehawken, N. J., 40 shares; Peter D. Thropp, Sheriff Thomas H. Thropp, John E. Thropp, and Frank W. Thropp, all of Trenton, 15 shares each. Under patents of Mr. De Laski, the inventor of the circular hose loom, the company will manufacture automobile and other vehicle tires, the distinctive feature of which will be a base of webbing woven in a circular tubular form by an ingenious machine, the invention of Mr. De Laski. This machine consists of one of his circular hose looms, which by a new attachment and feeding smaller ply yarn to the inner side of the tire than is fed to the tread, causes the weave to assume the circular form. The machine is adjustable and will weave any size tires, from 20 inches diameter, up. The company will manufacture a solid rubber tire, two styles of single tube, a heavy clincher for automobiles, and an inner tube tire. One of the weaving machines and the complete machinery for making the tires on a small scale has been installed in the works of the John E. Thropp & Sons Co., and here the tires are being made. As soon as every detail of the manufacture has been perfected a factory will be erected in this city and the manufacture commenced on a large scale. Mr. De Laski has taken out patents on his process in the United States and nineteen foreign countries.

The Franklin Rubber Co., incorporated May 29, 1903, under New Jersey laws, to deal in rubber goods; authorized capital, \$1,000,000. The company is referred to as being exclusively an inside company and a selling agency of the Mercer Rubber Co., manufacturers, of Trenton, and the registered offices in New Jersey are at No. 137 East State street—the headquarters of the Mercer company. The incorporators are

William H. Sayen, James S. Austin, and William P. Huston, of Philadelphia, and John E. Clancy and John A. Sloan, of Trenton—each signing the papers as the holder of 10 shares each of the par value of \$100.

## THE RUBBER TRADE IN KANSAS CITY.

A BRITISH CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: On the theory that "it's an ill wind that blows no one good" it was thought the trade in rubber goods at least would have been greatly stimulated by the recent floods in Kansas and Kansas City, but dealers in this class of merchandise say they have suffered equally with firms in other lines. In one item, that of rubber boots, there was a strong demand, but it was not sufficient to offset the loss in other directions.

"It is a natural error," said the manager of one of the leading Kansas City rubber companies yesterday, "to suppose that trade in our line should have been largely increased by reason of the floods and the attendant rains. Our house, doing a business of half a million dollars a year, wholesale and retail, in Kansas City and Kansas City territory, is probably a fair barometer of conditions in the rubber trade. Beginning with the first of the high water here our trade fell off fully one-half and the demand for specialties like rubber boots was not sufficient to anywhere near make up for it. There was a demand for rubber boots that could not be supplied. The local stocks were exhausted the second day and then all of us who handle this class of goods began to telephone and telegraph over the country for more. We drew on Chicago, Milwaukee, Detroit, every city where there was any considerable stock, and drained the western depot of the United States Rubber Co. St. Louis had a flood of its own and couldn't help us.

"It is safe to say that 3000 pair of hip boots and 6000 pair of knee boots were sold the week when the flood was at its worst. But aside from this there was little demand for rubber goods. Comparatively few slickers were sold, and most of them went to the packing companies, which had large forces of men at work where the water was dripping on them. Throughout Kansas City territory the demand for rubber goods fell off. Topeka merchants made practically no orders and the same is true of other cities in the flooded district. Business for two weeks was at a standstill and is just beginning to show signs of picking up.

"One item of loss to manufacturing firms that has not yet been computed is leather belting. Every foot of belting that was in the water is ruined, as the water melted the cement which held it together and the cost of replacing it will be one of the largest single items of expense in the rehabilitation of milling and manufacturing plants. Here is a bill of \$1500 for belting repairs to one milling company and we are to-day shipping another 3400 pounds. These are but two instances out of hundreds."

Inquiry at other places emphasized these statements. At the sporting goods and department stores the rubber boot stock was sold out, but the general trade in rubber goods was as dull as in other lines. A conservative estimate of the amount spent for rubber boots in Kansas City during the flood places it at \$30,000.

A BRITISH newspaper mentions a factory on that side of the Atlantic where "old rubber is bought in and converted into sheets which no one but a thorough expert could detect from being a thoroughly good piece of new rubber." The location of the works is not given.



## NEWS OF THE AMERICAN RUBBER TRADE.

## ATLANTIC RUBBER SHOE CO.

A LARGE force has been at work during the month on the factory being built for this company west of the Pawtuxet river, near Elmwood avenue, Providence, Rhode Island. The main building will be of brick, three stories high, and  $264 \times 58$  feet, with a basement, making the structure practically four stories. A second building, to be used as a machine shop, also of three stories, is to measure  $148 \times 54$  feet. The boiler house is to be  $36 \times 54$  feet, with a height of 28 feet. The smoke-stack is to be 150 feet in height. A factory is being planned to give employment to from 800 to 1000 hands, for the production of rubber boots and shoes under the system invented by H. J. Doughty. At the beginning of June it was expected that the plant would be completed within two months, and rapid progress on the work is reported.

## A NEW GOLF BALL FACTORY.

THE Cambridge Manufacturing Co. have been mentioned in these pages lately as undertaking the manufacture of golf balls, at Plantsville, Connecticut. It is understood that they are now ready to offer their product to the trade. They are making a "lively" ball, to be known as the "Gyro," the same being the subject of a United States patent [No. 697,816] granted to Cleland Davis, of the United States navy. Its construction involves (1) a spherical shell of celluloid, or a nitrocellulose compound, (2) layers of elastic material, wound on under tension, and (3) an outer shell of Gutta-percha or "its equivalent—vulcanized rubber or other material of like character." The Cambridge Manufacturing Co. are incorporated under the laws of Delaware, with \$100,000 capital. E. B. Frost, of the legal firm of Frost & Johnson, No. 100 Broadway, New York, is president of the company, and Norman G. Johnson, of the same firm, is business manager. E. O. Horstman, of Washington, D. C., and a member of the Chevy Chase Golf Club of that city, is vice president. The remaining directors are N. S. Simpkins, of Washington, and Cleland Davis, U. S. N., the inventor. A patent on the ball has also been granted in England—No. 152 (1902).

## RUBBER GOODS MANUFACTURING CO.

AT a meeting of the board of directors in New York, on May 27, the seventeenth regular quarterly dividend of  $1\frac{3}{4}$  per cent. on the preferred shares was declared, out of earnings, payable on June 16 to holders of record on June 5.—The general offices of the company are now installed in the Postal Telegraph building, No. 253 Broadway, New York, in seven rooms. The business of the company is better concentrated here than in the former quarters, besides which the location is more convenient to the offices in New York of the constituent companies. A new department has been installed—that of purchasing agent, in the same building with the general offices.

## I. CANDEE &amp; CO. (NEW HAVEN, CONN.)

THE large power plant of this company's factory is being entirely renewed, with a view to adopting the latest ideas in scientific construction for the purpose of obtaining the maximum of motive power with a given steam consumption. By these changes, Vice President H. Stuart Hotchkiss informs THE INDIA RUBBER WORLD, it is expected to affect an economy to the extent of reducing the number of pounds of steam required per indicated horse power per hour from 25 to 14. An order has been placed with the Westinghouse Machine Co.

(Pittsburgh) for two Westinghouse Corliss tandem compound condensing engines—26 and  $52 \times 54$ , and 24 and  $48 \times 48$ , respectively—rated at 1400 HP. for the two, with a maximum of 2700 HP. These will replace two George H. Corliss non condensing engines, one  $34 \times 72$  and one  $30 \times 72$ , having a total rated 1100 HP. Recently an  $18 \times 42$  non condensing George H. Corliss engine, of 150 HP., used to drive the machinery in the rubber washing room, machine shop, and carpenter shop, was replaced by a 180 HP. General Electric Co. motor, driven by a new 300 kilowatt Edward P. Allis vertical compound generator. This generator will also furnish power for the 65 HP. General Electric motor necessary to deliver water from Mill river to the Bulkley injector condenser which is also being installed. The entire steam plant will be run on the condensing system, instead of the non condensing as heretofore.

## THE SEAMLESS RUBBER CO.

THIS company has filed a certificate with the secretary of state at New Haven, of an increase of capital from \$130,000 to an amount not exceeding \$250,000. It is reported that an issue of \$70,000 of new stock offered at par has been taken and paid for in cash. The additional capital is to be applied to the extension of the company's business, the enlargement of the plant, and the installation of new equipment.—The Seamless Rubber Co. have awarded a contract for an additional brick building on their premises, to be used as a storehouse.

## WOONSOCKET RUBBER CO.

FREDERICK T. COMEE, for many years superintendent of the "Alice" mill, and for two years past in charge of the Millville mill, has resigned, his connection with the company terminating on June 6. It is not known whether an appointment will be made to fill the vacancy. At last accounts John Robson, the company's general superintendent, was at Millville, in personal charge of the plant.

## WHY ONE SUIT FOR DAMAGES FAILED.

PAUL BEAUDREAU sued the Model Rubber Co. (Woonsocket, Rhode Island) for \$3000, damages claimed for injuries received while he was employed by the company in their factory. It was claimed that because the point of a lever with which he worked was bent, it slipped from a socket when he tried to exert force upon a screw, and let him fall to the floor, thus breaking one of his legs. The court, in dismissing the case, held that the defect in the lever was so plain that in consenting to use it the plaintiff assumed the risk of danger.

## NEW YORK'S FIRE HOSE SCANDAL.

THE trial of John J. Scannell, formerly fire commissioner of New York, on charges of conspiracy to defraud the city in the purchase of fire hose and other supplies, has been set down to begin on the first Monday in October next, in the criminal branch of the supreme court.

## BUSY RUBBER FACTORIES AT NAUGATUCK.

A RECENT report from Naugatuck, Connecticut, stated that the condition of the rubber industry there had never been better. About 2000 persons were employed in the two factories of the United States Rubber Co.—the Rubber Glove and the "Wales-Goodyear" factories—producing more than 50,000 pairs of rubber boots and shoes daily, besides blankets, rubber gloves, and druggists' sundries. It is mentioned that while

Naugatuck rubber workers are frequently induced to go elsewhere to fill places in new factories, they generally find their way back to their old places and say that "Naugatuck is good enough for them."

#### PITTSBURG AND AMAZON RUBBER TRADING CO.

Incorporated May 18, at Washington, under the laws of the District of Columbia, with an authorized capital of \$1,000,000, for the interchange of products between the Amazon valley and the United States. The following officers were elected, on May 29, at Pittsburgh, Pennsylvania, where the principal offices will be located: E. E. Gallup, president; W. H. Lippencott, vice president; Major J. Orton Kerbey (former United States consul at Pará), vice president and secretary; W. E. Messenger, treasurer. The board of trustees includes H. T. Peterson, J. W. Leonard, D. J. Brown, George N. Kerbey (a son of Major Kerbey), and F. A. Pezet (secretary of the Peruvian legation at Washington). President Gallup is the Pittsburgh branch manager of a large rubber manufacturing company. The address of the new company is 410 Peoples Savings Bank building.

#### GOLF BALLS BOUGHT FOR RAW MATERIAL.

In an interview published in an English newspaper Mr. B. G. Work, of The B. F. Goodrich Co., speaking of the golf ball situation in the United States, is reported as saying: "Before the 'Haskell' came out all the balls used on the other side of the Atlantic came from England. None are being imported this year. Over 30,000 dozen that were imported last year we bought, not unpacked—just as they came over—for the sake of the Gutta-percha of which they were made, and at the price of the material. That meant a dead loss of at least 5s. a dozen to the makers."

#### A SUBSTITUTE FOR SULPHIDE OF ANTIMONY.

MANY chemists and color makers have tried to produce a color that would take the place of the golden and crimson sulphides of antimony for use in rubber compounding, but thus far have not had any great success. Dr. M. Toch, of New York, who has given much attention to this and kindred subjects, has at last produced dry colors that after vulcanization cannot be told from antimony. The product is an oxide, is light in weight, very fine, and gives an especially soft velvety feeling to the finished goods. In color the golden yellow and the crimson of the antimony are exactly reproduced. The coloring matter contains no sulphur of course so that they have no curing qualities. Manufactured by Toch Brothers, No. 468 West Broadway, New York.

#### RUBBER MEN PLAY BALL.

THE fourth annual baseball contest between the Married Men and the Single Men of the New York office of the United States Rubber Co. occurred on June 6, at New Dorp, on Staten Island. The preceding games had resulted each year in a victory for the Benedicts, but the Bachelors this season entered the game confident of success. At the end of the sixth inning the two teams were running even, and but one more inning remained to be played, at the end of which the score was 24 to 23 in favor of the married men. Later the players dined at Boehm's Hotel, where they were joined by a score of their friends who had witnessed the game.

#### DATA WANTED ON INSULATION.

THE American Institute of Electrical Engineers has appointed a special committee for the purpose of collecting and publishing electrical engineering data for the benefit of its members. It is not the intention to publish information on well known subjects such as may be found in existing books, but special data in the possession of practical men which, while of

value in their work, may not seem important enough to warrant a special publication. The committee invite all such information as may be disseminated without commercial disadvantage to the possessors of the data, the same to be printed as received, in the form of leaflets uniform in size, to be distributed to members of the Institute. On the list of subjects to be taken up by the new committee are the following, of interest to the rubber industry:

Carrying capacity of underground and overhead rubber and paper insulated cables, single conductor, duplex, and triple conductor.

Dielectric strength of commercial insulating materials.

Heating of cables of various sizes, paper or rubber, with various thicknesses of insulation.

#### NEW ENGLAND RUBBER CLUB.

THE executive committee have appointed the following committees to serve for one year:

*Committee on Finance*—F. H. Jones, William Keyes, G. P. Whitmore, W. J. Kelley, O. A. Barnard.

*Entertainment Committee*—H. C. Pearson, Wm. F. Mayo, E. S. Williams, Theodore S. Bassett, William J. Cable.

*Committee on Legislation*—Arthur W. Stedman, Eugene H. Clapp, George P. Whitmore.

*Auditing Committee*—George P. Eustis, J. Frank Dunbar.

*Sports Committee*—W. E. Barker, E. E. Wadbrook, F. C. Hood, F. D. Balderston, James H. Learned.

#### RECEIVER FOR SEARS PARA RUBBER CO.

EUGENE B. HOWELL, an attorney, of No. 346 Broadway, New York, on June 5, was appointed receiver for The Sears Pará Rubber Co., by the supreme court in Brooklyn, on the suit of Richard F. Sears, and gave bond for \$25,000. Attorneys Henry Wollman and B. J. Downey appeared for the complainant; Attorney W. N. Dykman, for Charles R. Flint, resisted the application for a receiver. The Sears Pará Rubber Co. were incorporated in Virginia, July 16, 1897, and their business was largely as buying agents at Pará for the Crude Rubber Co., now in liquidation. The object of the present proceedings is to arrive at an accounting of the transactions with the last named company.

#### NEW YORK STOCK EXCHANGE QUOTATIONS.

##### UNITED STATES Rubber Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending May 23	2,630	15 <sup>3</sup> / <sub>4</sub>	14 <sup>1</sup> / <sub>2</sub>	1,117	52	50
Week ending May 29	1,240	15 <sup>3</sup> / <sub>4</sub>	14 <sup>1</sup> / <sub>2</sub>	1,220	51 <sup>1</sup> / <sub>2</sub>	48 <sup>1</sup> / <sub>2</sub>
Week ending June 6	1,060	14 <sup>3</sup> / <sub>4</sub>	13 <sup>3</sup> / <sub>4</sub>	638	50	47 <sup>1</sup> / <sub>2</sub>
Week ending June 13	2,114	14 <sup>1</sup> / <sub>4</sub>	12 <sup>1</sup> / <sub>2</sub>	1,750	50	46
Week ending June 20	950	13 <sup>1</sup> / <sub>2</sub>	13	2,743	51	50

##### RUBBER Goods Manufacturing Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending May 23	6,300	25	23 <sup>1</sup> / <sub>2</sub>	610	80 <sup>1</sup> / <sub>2</sub>	79
Week ending May 29	2,370	24 <sup>1</sup> / <sub>2</sub>	23 <sup>3</sup> / <sub>8</sub>	340	79 <sup>3</sup> / <sub>8</sub>	79
Week ending June 6	3,011	25 <sup>1</sup> / <sub>4</sub>	23 <sup>1</sup> / <sub>8</sub>	717	80	77
Week ending June 13	3,300	24 <sup>1</sup> / <sub>4</sub>	22 <sup>3</sup> / <sub>8</sub>	700	78	77
Week ending June 20	310	23 <sup>1</sup> / <sub>4</sub>	23 <sup>1</sup> / <sub>2</sub>	300	77 <sup>3</sup> / <sub>8</sub>	77 <sup>3</sup> / <sub>8</sub>

#### HISTORY OF A "KOKOMO" PICTURE.

AN interesting bit of history is connected with the handsome lithograph distributed lately by the Kokomo Rubber Co. (Kokomo, Indiana)—the portrait of a young woman, described as "The great granddaughter of Chief Kokomo." It appears that the Indiana town was named for Ko-ko-mo, a chief of the Miami tribe of Indians, who once occupied that region, and was at the head of the tribe when it was removed by the government to a reservation in the then new Indian Territory.



Some time ago the Kokomo Rubber Co. received a letter from a young woman in Wyoming, who had got hold of a pair of their bicycle tires and liked them, stating that she was a great granddaughter of the Indian chieftain for whom the town—and the company—had been named. The result of further correspondence was that the company obtained a portrait of the young woman and her consent to their use of it as an advertisement.

#### REESE WATERPROOF CO. (OAKLAND, CALIFORNIA).

THE work of construction of a factory has been commenced, on the land mentioned in THE INDIA RUBBER WORLD of April 1, as having been purchased by this company. Up to date the company have carried on their work on a very small scale, but with such results as to make them sanguine in regard to their new waterproofing process.

#### HARTFORD RUBBER WORKS CO.

FOLLOWING the resignation of William H. St. John, for two years past secretary and treasurer of this company, the duties of the position have been divided. James W. Gilson has been elected to the office of secretary and Frank H. Turner to that of treasurer. Mr. Turner has been vice president of the company since 1901, which office he retains, and Mr. Gilson, has been sales manager. The directorate now consists of Lewis D. Parker, F. H. Turner, Charles H. Dale, Harry Keene, and Ernest Hopkinson. A contract has been awarded for the erection of a three story brick addition to the factory buildings, 63 X 155 feet in size.

#### THE GOODRICH BAND.

THE Goodrich band has for more than ten years been one of Akron's recognized musical organizations, and their services have been much in demand upon all public and many private occasions. Until the present summer the band has been active in all these things. It was December 14, 1891, that the band was organized, and Alfred Light, of the local factory of the American Hard Rubber Co. (then the Goodrich Hard Rubber Co.), was chosen and remained as leader of the organization. The normal strength of the band is twenty-five men. Their employers helped the organization in the purchase of instruments and uniforms, each member also contributing toward these expenses also. A rubber man suggests: "The ten or eleven years of this band's activity shows it to be not only the largest but the most lasting composition band in the rubber trade, perhaps. Its resiliency is to be tested at last, however,

for the organization is at the point of dissolution. Its friends have abundant faith that it will rise again, for it is of excellent white stock."

#### AFFAIRS OF DRESSER & CO.

JUDGE HOLT, in the United States district court in New York, on June 22, signed an order permitting the receivers of Dresser & Co.—Charles W. Mac Kenzie and Robert C. Morris—to continue business until June 29. In the application the receivers state that since their appointment on April 1 they have collected \$50,000 of the indebtedness due Dresser & Co. prior to the bankruptcy, and \$190,000 due the firm on open accounts. On new business the receivers say they have collected \$146,176 since April 1, and that there is still due Dresser & Co. on business secured by the receivers \$139,290, and they actually have sold and delivered during their receivership merchandise to the amount of \$295,000. The circumstances of the failure of Dresser & Co. (New York), jobbers of hosiery, silks, and elastic webbing, were reported in THE INDIA RUBBER WORLD April 1, 1903 (page 239.)

#### AMERICAN TUBING AND WEBBING CO.

THE plant of this company (Providence, Rhode Island) is still being operated by the receivers, Lorin M. Cook and Willard C. Perkins, whose appointment, on account of the embarrassment of the company due to the troubles in New York of the principal stockholder, Daniel Le Roy Dresser, was reported in THE INDIA RUBBER WORLD of April 1 (page 239). Mr. Cook is a stockholder and a prominent member of the Rhode Island bar. The present situation is that of awaiting the consummation, on July 7, of the offer of settlement made by Dresser & Co. [See THE INDIA RUBBER WORLD, May 1.] The appointment of receivers was made on the motion of Maurice H. Cook, a stockholder and son of Lorin H. Cook. He set forth that in a financial statement of December 31, 1902, the American Tubing and Webbing Co. showed a surplus over liabilities of \$115,598.24, but that said statement did not embrace certain liabilities incurred through the issue by the treasurer of the company of drafts against Dresser & Co., and which were accepted by Dresser & Co., the same being for the accommodation of the latter firm and not for the legitimate running of the American Tubing and Webbing Co., which corporation received no consideration on account of said drafts. The petitioner alleged that the amount of these drafts exceeded the capital of the Tubing and Webbing company, and as certain of them would mature on



EMPLOYEES' BAND OF THE B. F. GOODRICH CO. (AKRON, OHIO).

March 9, and as Dresser & Co. had become insolvent, the appointment of receivers was asked for, as a means of preventing the shutting down of the business, which was in a prosperous condition. The amount of the drafts referred to has not been made known. President Caldwell states that their issue had been going on for some time, being practically the loan of the company's name to Mr. Dresser, who for three years had been the principal shareholder of the company and its financial backer and New York agent. The company is capitalized at \$276,000. The shareholders are L. M. Cook, James M. Ripley, M. H. Cook, D. Le Roy Dresser, Alfred Caldwell, and G. M. Thurlow. Mr. Caldwell is president and Mr. Thurlow treasurer. Mr. Thurlow was general manager of the Narragansett Web Co. (Newport, Rhode Island), prior to the purchase of that business by the American Tubing and Webbing Co., in 1901. He explains his action as treasurer in issuing the drafts to Dresser & Co. by saying that as Mr. Dresser was the chief shareholder and was financially the company, his requests were complied with, as it was supposed that they were all right.

#### THE INDIA RUBBER CO. OF NEW JERSEY.

WITHIN a few days a new corporation will be formed under the laws of New Jersey with the above name, to form one of the constituent companies of the Rubber Goods Manufacturing Co. The new company will succeed to the business of the India Rubber Co. of Akron, Ohio, the factory of which was burned in March last, and will not be rebuilt. The India Rubber Co. of Akron as a corporation will not, however, be dissolved. The new company will operate the factory at New Brunswick, New Jersey, owned by the Rubber Goods Manufacturing Co. This factory, originally owned by the New Brunswick Rubber Co., manufacturers of rubber shoes, passed into the control of the United States Rubber Co. in 1892, and later was devoted by that company to the manufacture of tires. Still later the plant was acquired by the present owners. Work is now in progress in preparing the factory for its new use, and it will be in operation again by the end of summer.

#### NEW INCORPORATIONS.

THE Fawkes Rubber Co. (Denver, Colorado), incorporated May 25, 1903, under Colorado laws; capital, \$50,000, full paid. Officers: Charles W. Enos, M. D., president; John MacMillan, vice president; James N. Chipley (former state treasurer), secretary and treasurer. Charles G. Fawkes is general manager. The company have been formed to exploit the "Fawkes indestructible airless motor tire," for which United States patent No. 682,977 was granted September 17, 1901, to Ernest A. Dibbens, of Denver, assignor to Charles G. Fawkes. The company advise THE INDIA RUBBER WORLD: "At present we are manufacturing the tires in Akron, Ohio, but if satisfactory freight rates can be secured the probabilities are we shall erect our factory in Denver. Our new tire has been used in Denver on carriages for nearly a year, and has proved eminently successful." Office address: No. 1526 Stout street, Denver.

=Continental Caoutchouc Co., incorporated June 23, 1903, under New York laws; capital \$5000. Incorporators: William Tischbein (of the Continental Caoutchouc- und Gutta-percha Compagnie), Hannover, Germany; Joseph L. Kahle and Marcell Kahle, importers, No. 48 West Fourth Street, New York.

=American Chemical Co., incorporated June 3, 1903, under Maine laws, to buy and sell crude India-rubber, Gutta percha, and naphtha; capital, \$25,000; nothing paid in. F. L. Dutton president and E. F. Whittam treasurer—both of Augusta, Maine.

=Sterling Rubber Manufacturing Co., incorporated June 15, 1903, under New Jersey laws, to manufacture rubber goods;

capital, \$300,000. Incorporators: Joseph F. Cotter, G. W. Grand, and William F. Ridell. Principal office: No. 419 Market street, Camden, New Jersey.

=Froehlich Rubber Refining Co., June 5, 1903, under Pennsylvania laws; capital, \$9000. The treasurer of the company is Jesse Froehlich, No. 1320 Jerome street, Philadelphia.

#### TRADE NEWS NOTES.

THE Boston Woven Hose and Rubber Co., on June 15 distributed their regular semi annual dividend of 3 per cent.

=The Victor Rubber Tire Co. (Springfield, Ohio) have added a line of cushion rubber tires to their production.

=Albert T. Morse, of A. T. Morse & Co., India-rubber merchants (New York), attended a recent inscription sale at Antwerp.

=The Rubber Trading Co. (New York) have enlarged their quarters by taking the whole of the upper floor of No. 38 Murray street.

=C. E. Mathewson has succeeded W. H. Nash as manager of the Pacific Coast branch of the Diamond Rubber Co., in San Francisco.

=Several of the best retail houses in Ontario hold stock in the new Merchants Rubber Co., Limited (Berlin, Ontario), mentioned in these pages last month. It will be the company's policy to confine their Ontario business strictly to the retail trade.

=The Milford (Massachusetts) Rubber Co., by increasing the number of their employes, have put an end to night work, and hope to be able to handle their orders during ten hour days during the summer.

=The Plant Rubber Co. (Minneapolis, Minnesota) were losers to a slight extent by a fire on June 2, which damaged the building, No. 202 Nicollet street, in which a portion of their business is located.

=The bursting of a flywheel 18 feet in diameter in the factory of the Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited, on May 30, caused the death of Albert Holden, an employe, aged 25.

=The rubber shoe manufacturers of Canada on May 15 changed the discount rate to retailers from 25@5 per cent. to 25 per cent.

=The latest souvenir issued by the Eureka Fire Hose Co. (Jersey City, New Jersey) is a pack of playing cards, the backs of which are of a special design attractively incorporating the well known "Eureka" trade mark. The "joker" also shows the trade mark. The cards are packed in a case ornamented with a view of the Eureka factory and are being distributed to fire department officials throughout the country.

=Harry T. Dunn, sales manager for the Fisk Rubber Co. (Chicopee Falls, Mass.), sailed from Boston on June 2 for London, having planned a vacation in Europe of two or three months, during which he doubtless will also devote some attention to pushing the new Fisk detachable automobile tire.

=A petition in bankruptcy has been filed in the United States court against the Edward G. Milbury Co., dealers in oiled and rubber clothing, No. 38 Walker street, New York, which concern since April 24 last has been in charge of a receiver appointed by the state court—Edward G. Milbury, president of the company. The purpose of the new proceeding is to inquire into the validity of certain claims against the estate. The United States court has appointed William Ford Upson receiver.

=Mr. William Burlingham has accepted an appointment as chief engine designer with The B. F. Sturtevant Co. (Hyde Park, Massachusetts), resigning a position in the United States inspection office with the William R. Trigg Co. (Richmond,



Virginia). Mr. Burlingham has previously been associated with the Bath Iron Works, the General Electric Co., the Southwark Machine and Foundry Co., and the Newport News Ship-Building and Dry-Dock Co. He has also served on Mr. Thomas A. Edison's staff at the East Orange laboratory and is a graduate of the Worcester Polytechnic Institute.

=The Single Tube Automobile and Bicycle Tire Co. (New York) have removed their offices to the Postal Telegraph building, No. 253 Broadway.

=The Bowers Rubber Co. (San Francisco, California) have given up their store at No. 242 Purchase street, Boston.

=Mr. A. H. Alden, of the New York Commercial Co., is now in Europe, presumably studying the crude rubber situation.

=The J. E. Davis Rubber Works Co. (Buffalo, New York), whose incorporation was reported recently in this paper, are already filling orders for mold work on an encouraging scale, and Mr. Davis is convinced that Buffalo affords a good location for the manufacture and distribution of rubber goods.

=Charles J. Butler has been elected vice president and general manager of Morgan & Wright, Incorporated (Chicago) and is now in personal charge of the factory. Lewis D. Parker, on account of pressure of other duties, has resigned as president of the company, and his successor remains to be chosen.

=The directors of the U. S. Rubber Reclaiming Works (New York) have declared a quarterly dividend of 2 per cent. on the preferred stock, payable on July 1.

=A report reaches THE INDIA RUBBER WORLD that the Insulated Wire Co., formed not long ago at Tokyo, with C. Ogihara as superintendent, has gone out of business.

=The Boston Belting Co. (Boston) have mailed lately to their customers a pictorial advertising hanger, entitled "The Original Rubber Man," that is strikingly novel and certain to attract attention. The company will be pleased to supply it to any dealer who may request it.

=Mr. Basil S. Courtney, lately manager of the tire department of the New York Belting and Packing Co., Limited, has resigned his connection with the company, they having discontinued the manufacture of tires.

#### PERSONAL MENTION.

MR ISIDOR FRANKENBURG, the founder and head of Isidor Frankenburg, Limited, manufacturers of mackintoshes, insulated wire cables, and rubber boots and shoes, and alderman and justice of the peace for Salford, Manchester, England, was a recent visitor to the United States and Canada, during which time he favored the offices of THE INDIA RUBBER WORLD with a call.

=One of the largest June weddings at Albany, New York, this year, was that of Miss Ruth Williams Pruyn, daughter of Mr. and Mrs. Robert C. Pruyn, to Mr. David Marvin Goodrich, of Akron, Ohio—a son of the late Dr. B. F. Goodrich, the founder of the India-rubber industry in the latter city. The date of the wedding was June 2. Miss Alice Roosevelt, daughter of the President of the United States, was one of the bridesmaids. It is understood that Mr. and Mrs. Goodrich will reside in Boston.

=A special 112 page issue of *The Evening Scimitar*, of Memphis, Tennessee, on the occasion of the opening of their new office building, contains many indications of the growth and prosperity of that important southern city. Portraits of Messrs. H. N. Towner and Paul Towner, of the rubber goods house of Towner & Co., appear prominently among the sketches of "Representative Business Men of Memphis."

=Mr. John D. Carberry, assistant secretary of the United States Rubber Co., is an enthusiastic philatelist, being secretary and treasurer of the philatelic branch of the Brooklyn Institute, which has lately installed a permanent stamp exhibit that is one of the most important collections in existence.

## REVIEW OF THE CRUDE RUBBER MARKET.

THE month closes with an advance in Pará goods, equal in some grades to the decline recorded in these pages one month ago. The situation may best be illustrated by a comparative table, as follows:

PARÁ.	April 27.	May	June 2.
Islands, fine, new	90@91	87 a 88	88(a 89)
Islands, fine, old	92@93	91(a 92	92 a 93
Upriver, fine, new	92@93	91@92	93@94
Upriver, fine, old	98@99	97@98	98@99
Islands, coarse, new	59(a 60	56(a 57	56(a 57
Islands, coarse, old	@	@	@
Upriver, coarse, new	72@73	72@73	72@73
Upriver, coarse, old	@	@	@
Caucho (Peruvian) sheet	59(a 60	57@58	56(a 57
Caucho (Peruvian) ball	70@71	68@69	70@71

There has been little to record in the New York market for other sorts, the quotations for which are almost without change, as follows:

AFRICAN.		CENTRALS.		EAST INDIAN.	
Sierra Leone, 1st quality	82 @ 83	Ikelemba	82 @ 83	Assam	82 @ 83
Massai, red	82 @ 83	Madagascar, pinky	79 @ 80	Borneo	@
Benguella	68 @ 69	Esmeralda, sausage	68 @ 69		
Cameron ball	61 @ 62	Guayaquil, strip	62 @ 63		
Gaboon flake	40 @ 41	Nicaragua, scrap	67 @ 68		
Gaboon lump	43 @ 44	Panama, slab	55 @ 56		
Niger paste	20 @ 21	Mexican, scrap	67 @ 68		
Accra flake	20 @ 21	Mexican, slab	55 @ 56		
Accra buttons	58 @ 59	Mangabeira, sheet	52 @ 53		
Accra strips	60 @ 61				
Lopori ball, prime	82 @ 83				
Lopori strip, do	79 @ 80				

Receipts of rubber (including Caucho) at Pará, for the crop

season, up to June 26—with only four days remaining to complete the year—aggregated 29,480 tons. This amount has been exceeded in only one year. The total arrivals for five years past have been as follows:

	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.
Tons	25,370	26,670	27,610	30,007	29,480

#### Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine	\$550	Upriver, fine	\$4100
Islands, coarse	\$950	Upriver, coarse	\$700

Exchange, 12 $\frac{3}{4}$ d.

#### Last Manáos advices:

Upriver, fine	\$200	Upriver, coarse	\$300
---------------	-------	-----------------	-------

Exchange, 12 $\frac{3}{4}$ d.

#### NEW YORK RUBBER PRICES FOR MAY (NEW RUBBER).

	1902.	1901.
Upriver, fine	91(a 94	71 @ 74 $\frac{1}{2}$
Upriver, coarse	71@73	56 @ 60
Islands, fine	87@91	70 @ 73 $\frac{1}{2}$
Islands, coarse	57(a 60	45 @ 49
Cameta, coarse	60(a 64	51 $\frac{1}{2}$ @ 53

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 58 William street, New York), advises us as follows:

"During June there has been a good supply of money on call at low rates, but a very small demand for paper, and almost entirely from out-of-town banks at rates ranging from 5½ @ 6½ according to the grade of paper."

**Rubber Scrap Prices.**

NEW YORK quotations—prices paid by consumers for carload lots—are again slightly lower, as follows:

Old Rubber Boots and Shoes	Domestic.....	6	7
Do	—Foreign.....	6	7
Pneumatic Bicycle Tires.....		4	11
Solid Rubber Wagon and Carriage Tires.....		7	
White Trimmed Rubber.....		9 1/4	9 1/2
Heavy Black Rubber.....		1 1/2	
Air Brake Hose.....		2 7/8	3
Fire and Large Hose.....		2 1/2	
Garden Hose.....		1 1/2	
Matting.....		1	

**Statistics of Para Rubber (Excluding Caucho).**

		NEW YORK.			
		Fine and Medium.	Coarse.	Total 1902.	Total 1901.
Stocks, April 30. ....	tons	491	64 =	555	492
Arrivals, May .....		678	348 =	1026	1040
Aggregating.....		1160	412	1581	1532
Deliveries, May .....		697	343 =	1040	980
Stocks, May 31.....		472	60 =	541	895

		PARÁ.		ENGLAND.	
		1902.	1901.	1902.	1901.
Stocks, April 30. ....	tons	150	2240	1675	170
Arrivals, May.....		2070	1580	650	2805
Aggregating ....		2220	3820	2325	3035
Deliveries, May.....		2105	3740	925	960
Stocks, May 31. ....		115	80	1400	2775

		1902.	1901.	1902.	1901.
World's supply, May 31.....	tons	2996	2996	3050	3102
Pará receipts, July 1 to May 31.....		25,226	25,494	22,911	
Pará receipts of Caucho, same dates.....		3704	3236	2383	
Afloat from Pará to United States, May 31....		500	533	377	
Afloat from Pará to Europe, May 31.....		440	410	330	

**Liverpool.**

EDMUND SCHLÜTER & CO. report Liverpool stocks:

	Apr. 30.	May 31.		Apr.	May 31.
Pará—1st hands..	1041	905 tons.	Peruvians.....	249	243 tons.
Fine .....	842	78 "	Africans.....	351	330 "
Medium .....	114	7 "	Mollendo.....	70	161 pkg.
Negroheads .....	82	84 "	Mangabeira.....	8	91 "
Pará—2d hands..	640	497 "	Pernambuco.....	85	18 "
Fine .....	6	16 "	Maniçoba.....	222	212 "
Medium .....	114	18 "	Ceará.....	97	26 "
Negroheads .....	2	19 "	Assaré.....	55	46 "
Total Pará.....	1681	1402 "			

MESSRS. SCHLÜTER & CO. report that the rubber auction of June 17, when 1595 cwt. was offered, elicited no bidding. The market had shown no life during a week, but closed with a firmer tone. "There would be buyers of spot and July-August hard fine at 3s. 10d.—perhaps even at 1/2d. more in the latter position, and of August-September soft at 3s. 8 3/4d., at which figure spot rubber could probably be bought."

**London.**

EDWARD TILL & CO., report stocks June 1:

		1902.	1901.	1902.	1901.
LONDON	{ Pará sorts.....	—	—	—	—
	{ Borneo.....	13	121	168	
	{ Assam and Rangoon.....	5	23	40	
	{ Other sorts.....	209	432	528	
	Total.....	227	570	736	
LIVERPOOL	{ Pará.....	1402	2084	1355	
	{ Other sorts.....	619	1027	1411	
	Total, United Kingdom .....	2248	3687	3502	
	Total, May 1.....	2539	3788	3597	
	Total, April 1.....	2225	3322	3222	
	Total, March 1.....	1030	3078	2989	
	Total, February 1.....	1921	2674	3129	
	Total, January 1.....	1582	2794	2601	

S. FIGGIS & Co report [June 12] an easier market, with small sales hard fine Pará at 3s. 10d., forward delivery, 3s. 10 1/4d.; soft fine, 3s. 9 1/4d. Entre fine, neglected. Negroheads lower; scrappy 2s. 11 1/2d.; Cametti, 2s. 6d. Peruvian ball, 3s. 2s. 11 1/2d.; slab, 2s. 1d., sellers. A moderate competition in to-day's auctions. Manga-beira sold readily: Santos sheet, clean but part spongy, 2s. 7d. Good Central American scrap, 3s.; Cartagena slab mixed dirty at 1s. 9 1/2d.

Ceylon.—Fourteen packages sold; fine thin biscuits (Pará), 4s. 4d., ditto slightly heated, 4s. 3s.; small lot weakish, 4s. 1d.; clean Ceylon strips, 3s. 2 1/4d. [At the auction of May 29 Ceylon fine sold at 4s. 3 1/4d., scrap, 3s. 3 1/2d.]

Batavia.—Eighty packages sold; fair sheet, 2s. 6d.; mixed rough and thick, 2s.; brittle and inferior repetitions 1s. 2 1/2d. [At auction of May 29, Balata neglected, and 352 packages withdrawn.]

**Hamburg.**

TO THE EDITOR OF THE INDIA RUBBER WORLD: During the past week the tone of the rubber market here remained exceptionally quiet along the whole line; the tendency of business being very dragging, at receding prices. An inclination to sell became notable in Upriver fine, prompt; Peruvian balls are to be recorded as light; Negroheads, scrappy, were well maintained. Mollendo received slightly better inquiries, but owing to the high price ideas of the holders few transactions were made; value of fine, 8.40 marks per kilogram.

Middle sorts continue to be very short, the quantities in store being of no importance. Mozambique, Madagascar, Thimbles, and Bissao are but weakly represented. Massai remained dull, and lump sorts, after a weak opening, improved some. Ecuador and Columbia scraps were enabled to maintain their former stand. Gambia, Adeli Niggers and Borneo showed for inquiries. Kamerun and Batanga balls, Mangabeira, Benguella and Loanda niggers, and Guatemala sheets were neglected.

Hamburg, June 1, 1903.

**Antwerp.**

TO THE EDITOR OF THE INDIA RUBBER WORLD: At yesterday's sale by inscription about 480 tons of rubber were offered, and about 450 tons sold. Prices were irregular, though the general tone was good. On the whole, however, there was a decline of about one-half of one per cent. Among the large lots which sold above valuations were:

		Valuation	Sold
22 tons	Upper Congo—Aruwimi.....	8.50	8.72 1/2
20 "	Upper Congo—ordinary.....	9.25	9.42 1/2
13 "	Lake Leopold II.....	9.10	9.32 1/2

Among lots selling below valuations were:

		Valuation	Sold
22 tons	Upper Congo—Mongalla.....	9	8.90
11 "	Congo Kasai red.....	9.25	9.10
13 "	Upper Congo—Lopori I.....	9.65	9.50
10 "	Upper Congo—Lopori II.....	8.50	8.05
5 "	Upper Congo—Uélé.....	9	8.75
37 "	Upper Congo—Uélé.....	9	8.70

The next large sale will take place at the end of June.

Stocks to-day about 375 tons.

C. SCHMID & CO.

Antwerp, May 27, 1903.

**RUBBER ARRIVALS AT ANTWERP.**

JUNE 4.—By the *Nigeria*, from the Congo:

Bunge & Co.....	(Société Générale Africaine) kilos	125,000
Do .....	(Comite Spécial Katanga)	5,000
Do .....	(Société Anversoise)	13,000
Société Equatoriale Congolaise.....		7,600
Comptoir Commercial Congolais.....		15,400
Société A B I R .....		76,000
Société Coloniale Anversoise.....	(Belge du Haut Congo)	17,600
Do .....	(Cie. du Lomami)	22,500
Do .....	(Sud Kamerun)	4,900
Do .....	(Société La Lulunga)	3,500
Do .....	(Cie. du Kasai)	20,600
M. S. Cols .....		3,000
Do .....		700
Th. De Bruyne.....	(Cie. du Kouango)	2,700
W. Mallinckrodt & Co .....	(Alimacenne)	9,500



### The Congo Rubber Movement.

EXPORT of rubber from the Congo Free State during 1902 are officially stated as follows:

	Kilos.	Value.
Total rubber exports	5,804,030	45,271,431 francs.
Product of the State	5,360,452	41,783,528 "

The arrivals at Antwerp during the year 1902 embraced 5,403,985 kilograms, from all sources, of which 4,992,954 kilograms were from the Congo Free State. The difference between the Antwerp receipts and the output of the Free State is doubtless to be accounted for in the Rotterdam trade in Congo rubbers, the arrivals there of this grade in 1902 having amounted to 899,750 kilograms.

### Bordeaux.

R. HENRY & Co. report [June 8] a very calm market, with prices lower by 15@20 centimes per kilogram. Arrivals during the week were 21,000 kilograms Casamance and 5000 kilograms Soudan. Stocks remaining were 6789 kilograms Soudan and 5500 Mayumba.

### Para.

KANTHACK & Co. report [June 8]: "In consequence of adverse influences in the consuming centers, a quiet tone has pervaded this market, interrupted occasionally by a transitory appearance of better demand; altogether, business is now confined within narrow limits on account of small supplies, which, in accordance with the pending close of the present and reopening of the new crop season, will remain of slender dimensions for some months to come."

### Rubber Product of the Lower Amazon.

IN a review of rubber statistics from Manáos for the calendar year 1902, in the June number of this Journal, we estimated the rubber product of the state of Pará for that period at 10,832½ tons. This estimate is practically confirmed by some details since supplied to THE INDIA RUBBER WORLD by a leading house in Pará, which permits the following comparison to be made of the arrivals at Pará during two whole crop seasons, and eleven months of the last season, as distinguished between produce of Pará state and of the Upriver regions. The figures indicate metrical tons and include Caucho:

	Pará state	Upriver	Total
Crop year 1900-01	9,235	18,372	27,607
Crop year 1901-02	10,420	19,662	30,082
July-May 1902-03 (11 months)	10,480	17,823	28,303

The first interest in these figures is in their showing of the sustained production of rubber on the lower Amazon. In spite of this region having been longest worked, and presumably more closely worked than any other in South America, the fact remains that the volume of receipts from Pará state is now larger than ever before. It is true that, by the extension of rubber gathering into the state of Amazonas, up the river, and into Bolivia and Peru, the product of Pará is now greatly exceeded by that from the new fields, but not because of any decline in the Pará output. The figures credited to Pará do include nowadays some rubber collected in the state of Matto Grosso, and arriving via the river Tapajoz, but this is estimated by our correspondent not to exceed 50 to 100 tons in a year. Another point of interest is the increasing production in Pará state of Caucho, which formerly was obtained only upstream. The entries of Pará Caucho increased from 66 tons in 1900-01, and 82 tons in 1901-02, to 322 tons [=708,400 pounds] in the first eleven months of the crop year just closed.

Following are some figures from other sources, stating the total entries of rubber (and Caucho) at Pará for several crop years, and the amount of the same produced in the state of

Pará, showing the production of that state to have increased steadily. [The asterisk (\*) indicates quantities on which export duties were collected in certain years—practically the same thing as the amounts arrived]:

	Total	Pará	Total	Pará	
1889-90	15,300	4,644*	1891-95	19,420	5,210*
1890-91	16,850	7,394*	1895-96	21,020	8,708*
1891-92	18,440	6,474*	1896-97	22,320	8,576
1892-93	18,970	8,241*	1897-98	22,250	8,919
1893-94	19,710	8,040*	1898-99	25,370	9,839

It is of course an encouraging fact, if it be proved that the *Hevea* rubber species are capable of such treatment that they may be kept productive indefinitely. It would appear, from the above figures, to be a mistaken idea that rubber gatherers have constantly gone further up the Amazon because the earlier rubber fields had become exhausted. They go upriver to meet a steadily increasing demand for rubber. New rubber fields are undoubtedly richer in yield at first, and new settlements afford for awhile the possibility of larger profits in bartering merchandise to native rubber gatherers, but there appears to be still enough profit possible in the lower Amazon region to keep up the rate of production, and to enlarge it year by year.

### Rubber Receipts at Manaos.

DURING May and for the first eleven months of the crop season [by courtesy of Messrs. Witt & Co.]:

FROM	MAY		JULY-MAY		
	1901	1902	1901	1902	1903
Rio Purús	420	360	201	5912	6673
Rio Madeira	84	62	66	2249	2756
Rio Juruá	183	137	61	3576	3588
Rio Javary—Iquitos	29	88	8	1502	1301
Rio Solimões	43	22	50	1348	1530
Rio Negro	16	13	38	651	369
Total	780	682	514	15238	16217
Caucho	596	498	743	3354	3285
Total	1376	1180	1257	18592	19502

ORDERS have been issued for the collection of export duties on all Acre rubber shipped abroad direct at the rate of 23 per cent. *ad valorem*—the same as ruling at Manáos. When the rubber is consigned to Manáos or Pará, export duties are to be collected at those ports. Of the duties on all rubber proceeding from the upper Acre (south of parallel 10° 10') 11½ per cent. is to be credited to the Bolivian government. While Bolivia controlled the Acre customs, the export duty on rubber was 15 per cent. *ad valorem*.

### IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

#### June 3.—By the steamer *Amazonense*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total
Poel & Arnold	113,500	53,700	54,200	71,000	297,400
A. T. Morse & Co.	146,500	28,700	38,600	43,000	256,800
New York Commercial Co.	81,800	13,300	35,700	2,800	133,300
Edmund Reeks & Co.	.....	.....	.....	33,000	33,000
United States Rubber Co.	.....	.....	31,600	.....	31,600
Thomsen & Co.	2,300	.....	5,800	.....	8,100
L. Hagenaers & Co.	2,800	.....	3,000	.....	5,800
H. A. Gould Co.	1,400	.....	600	.....	2,000
Total	348,000	100,700	160,500	149,800	768,000

#### June 24.—By the steamer *Hilari*, from Manáos and Pará:

Poel & Arnold	30,300	14,000	44,300	33,200	121,800
A. T. Morse & Co.	43,100	7,700	68,900	300	120,000
New York Commercial Co.	51,400	9,100	26,500	10,400	97,400
Hagemeyer & Brunn	12,100	300	5,200	20,700	38,300
United States Rubber Co.	.....	.....	.....	29,100	29,100
William Wright & Co.	13,300	1,800	13,700	.....	28,800
Edmund Reeks & Co.	8,800	2,000	4,900	.....	15,700
Lionel Hagenaers & Co.	7,000	.....	4,400	.....	11,400
Total	166,000	34,900	167,900	93,700	462,500

June 13.—By the steamer *Cogezet*, from Manaus and Para.

A. T. Morse & Co.	31,000	9,400	51,400	63,200	188,700
United States Rubber Co.	90,300	14,700	22,500	6	128,700
New York Commercial Co.	15,000	10,000	30,500	34,500	127,700
Poel & Arnold	12,400	9,100	33,400	72,000	127,400
Edmund Keeks & Co.	2,400	700	3,800	20,100	27,200
L. Hagemeier & Co.	8,600	.....	5,200	.....	13,800

Hagemeier & Braun	.....	.....	12,000	.....	.....
H. A. Gould Co.	4,000	300	1,300	.....	5,600
William Wright & Co.	.....	.....	2,500	.....	2,500

Total... 207,200 44,800 184,700 195,700= 632,400

Notes: The steamer *Cogezet* arrived at New York June 13. Rubber and other goods were landed at New York.

## PARA RUBBER VIA EUROPE.

MAY 28.—By the *Cherbourg*—Liverpool.

George A. Alden &amp; Co. (Cauchon).....

JUNE 1.—By the *La Sirena*—Havre.

Poel &amp; Arnold (Cauchon).....

JUNE 1.—By the *Umbria*—Liverpool.

George A. Alden &amp; Co. (Fine).....

JUNE 4.—By the *Telluride*—Liverpool.

George A. Alden &amp; Co. (Fine).....

JUNE 20.—By the *Campania*—Liverpool.

William Wright &amp; Co. (Fine).....

OTHER ARRIVALS AT NEW YORK.

## CENTRAIS.

MAY 25.—By the *Erektion*—New Orleans.

A. T. Morse &amp; Co. .... 6,000

Manhattan Rubber Mfg. Co. .... 2,000

MAY 26.—By the *Yucatan*—Colon.

G. Amstutz &amp; Co. .... 7,000

H. Marquardt &amp; Co. .... 4,500

American Trading Co. .... 2,000

W. Loalza &amp; Co. .... 1,100

Lawrence Johnson &amp; Co. .... 1,000

Macdonald &amp; Co. .... 600

F. Probst &amp; Co. .... 500

Meyer Hecht ..... 200

E. B. Strout ..... 400

United Fruit Co. .... 200

Kunhardt &amp; Co. .... 200

MAY 26.—By the *Potosi*—New Orleans.

A. T. Morse &amp; Co. .... 1,000

MAY 29.—By the *Potosi*—Hamburg.

Poel &amp; Arnold ..... 2,200

JUNE 1.—By the *Corumbas*—Bahia.

J. H. Roszbach &amp; Bros. .... 30,000

Allerton D. Hitch ..... 1,500

JUNE 1.—By the *Comus*—New Orleans.

Manhattan Rubber Mfg. Co. .... 10,000

A. N. Rotholz ..... 3,000

A. T. Morse &amp; Co. .... 1,000

JUNE 1.—By the *Hocana*—Mexico.

H. Marquardt &amp; Co. .... 9,500

F. Probst &amp; Co. .... 8,500

Harburger &amp; Stack ..... 1,000

E. Steiger &amp; Co. .... 1,500

Graham Hinkley &amp; Co. .... 1,500

American Trading Co. .... 1,000

Samuels &amp; Cummings ..... 1,000

W. Loalza &amp; Co. .... 1,000

Isaac Ruble &amp; Co. .... 500

Louis A. Levy ..... 300

L. N. Chemedin &amp; Co. .... 100

E. N. T. Bais &amp; Co. .... 100

For Hamburg ..... 3,000

JUNE 2.—By the *Alen*—Savannah.

G. Amstutz &amp; Co. .... 4,500

F. Probst &amp; Co. .... 1,000

E. B. Strout ..... 1,500

Andreas &amp; Co. .... 1,000

J. A. Faria Bros ..... 500

JUNE 3.—By the *Albanca*—Colon.

Edinburg Bros. &amp; Co. .... 1,000

Isaac Brandon &amp; Bros. .... 2,000

G. Amstutz &amp; Co. .... 1,500

Smithers, Nordenholt &amp; Co. .... 1,000

H. Marquardt &amp; Co. .... 500

Silva Bussenus &amp; Co. .... 400

For Antwerp ..... 4,400

JUNE 9.—By the *Chilhouette*—New Orleans.

Manhattan Rubber Mfg. Co. .... 5,000

A. T. Morse &amp; Co. .... 2,000

K. Mandell &amp; Co. .... 1,500

JUNE 9.—By the *Segura*—Colon.

Silva Bussenus &amp; Co. .... 1,500

H. Marquardt &amp; Co. .... 1,200

Kunhardt &amp; Co. .... 900

A. D. Straus &amp; Co. .... 800

W. R. Grace &amp; Co. .... 700

Eggers &amp; Heinlein ..... 800

G. Amstutz &amp; Co. .... 400

D. N. Carrington &amp; Co. .... 700

Andreas &amp; Co. .... 300

J. W. Wilson &amp; Co. .... 200

Graham, Hinkley &amp; Co. .... 200

JUNE 10.—By the *Allegany*—Cartagena.

G. Amstutz &amp; Co. .... 2,500

Guiterman, Rosenfeld &amp; Co. .... 2,000

Lawrence Johnson &amp; Co. .... 2,000

## CENTRAIS (Continued).

American Trading Co.	500
A. D. Straus & Co.	500
C. Wessels & Co.	500
Pinnerford & Co.	200
Pedro A. Lopez	200

JUNE 11.—By the *Laurel*—New Orleans.

A. T. Morse &amp; Co. .... 2,000

Eggers &amp; Heinlein ..... 1,500

A. S. Lasselles &amp; Co. .... 500

JUNE 15.—By the *Vigilant*—Mexico.

Theriot Bros. .... 2,500

L. N. Chemedin &amp; Co. .... 2,000

JUNE 16.—By the *Uganda*—Savannah.

G. Amstutz &amp; Co. .... 1,500

Kunhardt &amp; Co. .... 1,500

Lawrence Johnson &amp; Co. .... 1,100

C. Wessels &amp; Co. .... 500

D. A. De Lima &amp; Co. .... 500

Mercke &amp; Co. .... 500

JUNE 19.—By the *Savannah*—Colon.

Roidan &amp; Van Stekile ..... 1,400

A. Santos &amp; Co. .... 2,600

Andreas Co. .... 2,000

A. N. Cappe Schs ..... 2,400

Edinburg Bros. &amp; Co. .... 2,000

Piza, Nedehs &amp; Co. .... 1,900

Isaac Brandon &amp; Bros. .... 1,700

G. Amstutz &amp; Co. .... 1,400

Lawrence Johnson &amp; Co. .... 1,100

Everett, Heaney &amp; Co. .... 800

E. B. Strout ..... 700

W. Loalza &amp; Co. .... 700

F. Probst &amp; Co. .... 200

M. A. de Lima ..... 200

Hirzel, Fellman &amp; Co. .... 400

JUNE 19.—By the *Lgyptian Prince*—Bahia.

J. H. Roszbach &amp; Bros. .... 15,000

Booth &amp; Co. .... 22,000

E. B. Ross &amp; Co. .... 5,000

JUNE 20.—By the *Potosi*—New Orleans.

A. T. Morse &amp; Co. .... 4,500

A. N. Rotholz ..... 4,000

Eggers &amp; Heinlein ..... 2,400

G. Amstutz &amp; Co. .... 800

JUNE 20.—By the *Campania*—Liverpool.

George A. Alden &amp; Co. .... 8,000

JUNE 22.—By the *Westerly*—Mexico.

E. Steiger &amp; Co. .... 1,500

Graham, Hinkley &amp; Co. .... 1,000

Harburger &amp; Stack ..... 1,000

W. Loalza &amp; Co. .... 1,000

H. Marquardt &amp; Co. .... 1,000

JUNE 22.—By the *Rapido*—Bahia.

J. H. Roszbach &amp; Bros. .... 26,500

Allerton D. Hitch ..... 7,000

JUNE 23.—By the *Yucatan*—Colon.

H. Marquardt &amp; Co. .... 2,000

Samuels &amp; Cummings ..... 1,500

Lawrence Johnson &amp; Co. .... 1,500

D. A. De Lima &amp; Co. .... 1,900

G. Amstutz &amp; Co. .... 1,300

Livingstone &amp; Co. .... 500

E. B. Strout ..... 100

Meyer Hecht ..... 100

Eggers &amp; Heinlein ..... 200

## AFRICANS.

MAY 25.—By the <i>Hochstet</i> —Hamburg.	
George A. Alden & Co.	25,000
Rubber Trading Co.	15,000
Joseph Cantor	6,000

MAY 25.—By the *Comus*—Glasgow.

Poel &amp; Arnold ..... 11,000

MAY 26.—By the *Potosi*—Antwerp.

A. T. Morse &amp; Co. .... 50,000

MAY 28.—By the *Uganda*—Liverpool.

Poel &amp; Arnold ..... 32,000

George A. Alden &amp; Co. .... 7,000

United States Rubber Co. .... 6,000

MAY 29.—By the *Potosi*—Hamburg.

George A. Alden &amp; Co. .... 6,000

Otto Meyer ..... 3,500

JUNE 1.—By the *Umbria*—Liverpool.

George A. Alden &amp; Co. .... 12,000

Poel &amp; Arnold ..... 6,000

A. T. Morse &amp; Co. .... 4,000

JUNE 2.—By the *Yucatan*—Rotterdam.

Rubber Trading Co. .... 11,000

## AFRICANS (Continued).

JUNE 7.—By the <i>Mersey</i> —Hamburg.	
Otto Meyer	11,000
JUNE 9.—By the <i>Potosi</i> —Lisbon.	
United States Rubber Co.	5,000

JUNE 9.—By the *Uganda*—Liverpool.

George A. Alden &amp; Co. .... 5,000

Otto Meyer ..... 5,000

William Wright &amp; Co. .... 5,000

Rubber Trading Co. .... 2,000

JUNE 9.—By the *Zeeuw*—Antwerp.

A. T. Morse &amp; Co. .... 50,000

Joseph Cantor ..... 5,000

Poel &amp; Arnold ..... 2,000

JUNE 11.—By the *Potosi*—Hamburg.

Poel &amp; Arnold ..... 1,000

A. T. Morse &amp; Co. .... 11,000

JUNE 11.—By the *Uganda*—Liverpool.

George A. Alden &amp; Co. .... 11,000

Poel &amp; Arnold ..... 2,000

Otto Meyer ..... 2,000

JUNE 15.—By the *Uganda*—Antwerp.

George A. Alden &amp; Co. .... 1,000

A. T. Morse &amp; Co. .... 10,000

JUNE 18.—By the *Uganda*—Hamburg.

George A. Alden &amp; Co. .... 11,000

H. A. Gould Co. .... 1,000

Otto Meyer ..... 2,000

JUNE 18.—By the *Mersey*—Liverpool.

George A. Alden &amp; Co. .... 20,000

JUNE 20.—By the *Campania*—Liverpool.

George A. Alden &amp; Co. .... 6,000

## EAST INDIAN.

MAY 11.—By the <i>Indra</i> —Singapore.	
Robert Brauns & Co.	2,000
MAY 21.—By the <i>Santa Cruz</i> —Batavia.	
Poel & Arnold	5,000

MAY 25.—By the *Mersey*—London.

D. P. Crutcher ..... 7,000

MAY 28.—By the *Uganda*—Singapore.

Robert Brauns &amp; Co. .... 15,000

JUNE 6.—By the *Santa Cruz*—Singapore.

William Wright &amp; Co. .... 15,000

D. P. Crutcher ..... 15,000

Poel &amp; Arnold ..... 4,000

JUNE 15.—By the *Yucatan*—London.

H. A. Gould Co. .... 3,000

Whitaker &amp; Reolker ..... 4,000

JUNE 22.—By the *Mersey*—London.

Poel &amp; Arnold ..... 1,500

## PONTIANAK.

MAY 28.—By the <i>Thames</i> —Singapore.	
George A. Alden & Co.	1,000
Robert Brauns & Co.	1,500
Winter & Smith	500
Haelder & Co.	500

JUNE 6.—By the *Santa Cruz*—Singapore.

William Wright &amp; Co. .... 5,000

Poel &amp; Arnold ..... 5,000

George A. Alden &amp; Co. .... 1,000

GUTTA-PERCHA AND BALATA.

MAY 18.—By the <i>Potosi</i> —Glasgow.	
Kempshall Manufacturing Co.	500
JUNE 22.—By the <i>Uganda</i> —Havre.	
To order	4,000
George A. Alden & Co.	6,000

JUNE 22.—By the *Uganda*—Liverpool.

Royal Niger Co. .... 5,000

## MALAYAS.

JUNE 1.—By the <i>Uganda</i> —Batavia.	
Macdonald & Co.	500
JUNE 1.—By the <i>Uganda</i> —Rotterdam.	
Earle Brothers	4,000

JUNE 1.—By the *Mersey*—London.

Earle Brothers ..... 500



## CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK MAY		
Imports		
India rubber	4,731	\$2,740,892
Gutta-percha	4,660	2
Gutta-jelutong (Pontianak)	1,191	0
Total	10,582	\$2,740,894
Exports		
India rubber	4,800	\$
Reclaimed rubber	61,000	0.41
Rubber Scrap Imported	1,914,662	\$90,48

## BOSTON ARRIVALS.

MAY 4 By the <i>Mercury</i> —Liverpool:		
George A. Alden & Co.—African	11,342	10,388
MAY 4 By the <i>Mercury</i> —Liverpool:		
George A. Alden & Co.—African	23,400	140,488
MAY 6 By the <i>S. C. Green</i> —Liverpool:		
George A. Alden & Co.—African	22,300	11,000
MAY 6 By the <i>Thetis</i> —London:		
George A. Alden & Co.—African	11,000	3,000
MAY 7 By the <i>Thetis</i> —Hamburg:		
George A. Alden & Co.—African	3,000	1,000
MAY 1 By the <i>New England</i> —Liverpool:		
George A. Alden & Co.—African	1,000	1,000

MAY 15.—By the <i>Carpe</i> —Liverpool:		
Poel & Arnold—Caucasus	52,753	11,000
MAY 15.—By the <i>Sachsen</i> —Liverpool:		
George A. Alden & Co.—African	11,000	22,807
MAY 19.—By the <i>Sachsen</i> —Liverpool:		
Poel & Arnold—African	22,807	821
MAY 19.—By the <i>Anglian</i> —London:		
George A. Alden & Co.—East Indian	821	2,435
MAY 26.—By the <i>Columbia</i> —London:		
George A. Alden & Co.—African	2,435	5,600
MAY 29.—By the <i>Saxonia</i> —Liverpool:		
George A. Alden & Co.—African	5,600	321,488
Total Imports	321,488	(Value, \$472,500)

## MAY EXPORTS OF INDIA-RUBBER FROM PARA (IN KILOGRAMS).

1000 KILOGRAMS = 2204.6 POUNDS.

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Schrader & Co.	24,810	5,752	28,001	—	58,563	62,200	4,080	24,700	—	90,980	149,163
Frank da Costa & Co.	90,928	13,707	11,752	600	225,112	40,662	4,628	6,288	—	60,578	285,690
Adelbert H. Alden	37,448	8,320	31,030	—	76,798	15,210	1,970	15,620	740	33,540	107,390
Kanthack & Co.	—	—	—	—	—	—	—	4,610	—	4,610	4,610
Neale, Staats & Co.	5,004	888	24,100	—	30,692	3,600	170	502	55,570	59,302	90,001
Denis Crouan & Co.	4,038	667	4,604	—	9,309	7,871	1,314	1,130	—	10,321	19,627
R. Suarez & Co.	—	—	—	—	—	57,503	4,832	5,920	2,353	70,674	70,674
Pires, Teixeira & Co.	2,458	—	5,501	—	13,959	7,093	—	1,148	—	8,241	22,200
Sundry small shippers	3,967	279	1,931	—	9,177	9,822	1,759	6,507	—	18,088	27,265
Direct from Iquitos	—	—	—	—	—	8,644	1,214	5,922	174,373	190,153	190,153
Direct from Manaos	213,654	73,058	7,007	23,651	603,802	260,867	31,213	76,770	165,609	534,459	1,138,261
Total for May	388,401	100,721	297,851	237,115	1,024,088	481,902	51,180	149,138	398,645	1,080,955	2,105,043
Total for January-April	3,376,482	849,983	2,148,079	659,854	7,034,398	3,913,630	477,726	1,019,589	573,788	6,084,733	14,019,131
Total, July-December	2,724,574	649,900	2,174,215	75,023	5,625,318	4,011,602	609,423	1,113,562	509,474	6,235,301	11,860,679
Total, CROU YEAR	6,489,457	1,600,610	4,618,145	975,592	13,683,804	8,407,224	1,138,320	2,282,589	2,472,907	14,311,049	27,984,853

## OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1903	3,874,693	130,130	3,744,563	April, 1903	4,888,464	3,428,096	1,460,368
January-March	16,197,808	865,965	15,331,843	January-March	15,690,304	9,881,648	5,808,656
Four months, 1903	20,072,501	993,095	19,079,406	Four months, 1903	20,578,768	13,309,744	7,269,024
Four months, 1902	11,789,635	1,233,134	10,556,501	Four months, 1902	19,686,688	10,074,960	9,611,728
Four months, 1901	23,343,662	1,060,360	22,283,302	Four months, 1901	18,200,964	9,513,616	8,687,348
GERMANY.				ITALY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1903	3,317,600	1,590,380	1,727,220	April, 1903	298,860	—	298,860
January-March	9,451,640	3,483,260	5,968,380	January-March	341,220	25,960	315,260
Four months, 1903	12,769,240	5,073,640	7,695,600	Four months, 1903	640,080	25,960	614,120
Four months, 1902	9,933,220	3,278,220	6,655,000	Four months, 1902	515,020	42,460	472,560
Four months, 1901	8,477,180	1,873,300	6,603,880	Four months, 1901	627,220	60,300	566,920
FRANCE.				AUSTRIA-HUNGARY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1903	1,724,500	677,380	1,047,120	April, 1903	217,530	3,520	214,010
January-March	3,887,680	2,101,880	1,785,800	January-March	742,060	8,800	733,260
Four months, 1903	5,612,180	2,779,260	2,832,920	Four months, 1903	959,640	12,320	947,320
Four months, 1902	6,550,440	2,766,720	3,783,720	Four months, 1902	910,520	1,680	908,840
Four months, 1901	6,301,480	3,193,080	3,108,400	Four months, 1901	762,080	7,040	755,040

NET IMPORTS.		
MONTHS.	IMPORTS.	EXPORTS.
April, 1903	1,724,500	677,380
January-March	3,887,680	2,101,880
Four months, 1903	5,612,180	2,779,260
Four months, 1902	6,550,440	2,766,720
Four months, 1901	6,301,480	3,193,080

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. French, Austrian, and Italian figures include Gutta percha. The exports from the United States embrace the supplies for Canadian consumption.

\* General Commerce.

† Special Commerce.

WILLIAM T. BAIRD, PRESIDENT

ROBERT B. BAIRD, VICE PRESIDENT

# RUBBER TRADING COMPANY

38 MURRAY STREET,  
NEW YORK.

TELEPHONE. 1924 CORTLANDT.

CABLE ADDRESS  
CHAUNBAIR  
NEW YORK AND BOSTON

BOSTON OFFICE:  
161 SUMMER STREET  
TELEPHONE 1599-2 OXFORD

# CRUDE RUBBER

*Mention The India Rubber World when you write.*

ESTABLISHED 1855.

## Geo. A. Alden & Co.,

IMPORTERS OF

India Rubber and  
Gutta Percha,  
170 SUMMER STREET,  
BOSTON.

*Mention The India Rubber World when you write.*

## India-Rubber (Crude) OTTO MEYER,

New England Representative,

A. T. Morse & Co.,  
New York.

No. 161 Summer St.,  
BOSTON, MASS.

Telephone: 543 OXFORD.  
Cable Address: MYERO.

*Mention The India Rubber World when you write.*

Rubber Manufacturers desiring the best lead pigment will find Sublimed White Lead most satisfactory for Standard Tire Stocks—and for all other Stocks where toughness and resiliency is desirable and necessary.

For samples and prices address

## PICHER LEAD CO.,

FOR THE EAST:  
100 WILLIAM STREET,  
NEW YORK.

FOR THE WEST:  
WESTERN UNION BUILDING,  
CHICAGO.

*Mention The India Rubber World when you write.*





Best Made.

*Mention The India Rubber World when you write.*

# **HOLDEN, LEONARD & Co.,** 72 LINCOLN ST. BOSTON.

Rain-proof  
Cloths  
in large variety  
of fabrics and  
styles.



New plant  
completed.  
Cloths treated  
for the  
trade.

CORRESPONDENCE INVITED.  
*Mention The India Rubber World when you write.*

# **Milford Rubber Company,**

**PROOFING HEADQUARTERS** for

TRIPLEX GOODS such as COTTON  
COVERTS DUCKS, etc. Also all kinds  
of DOUBLE AND SINGLE TEXTURE  
GOODS skirt bindings, etc. : : :

Office: No. 65 ESSEX STREET, BOSTON.

Factory: Milford, Mass.

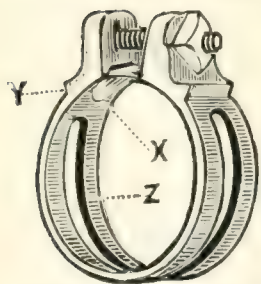
*Mention The India Rubber World when you write.*

# **Conant Rubber Co.,** **DRESS SHIELDS,** **NURSERY and** **HOSPITAL SHEETING.**

Offices; No. 170 PURCHASE STREET, BOSTON.

Factory: SOUTH FRAMINGHAM, MASS.

*Mention The India Rubber World when you write.*



**Yerdon's Improved  
Double Hose Band....**  
SIMPLE, STRONG, SURE.

Send for Sample and Prices.

**WILLIAM YERDON, - Fort Plain, N. Y.**

*Mention The India Rubber World when you write*

**"ALL ABOUT INDIA-RUBBER AND GUTTA-PERCHA"**

PUBLISHED BY FERGUSON, IN CEYLON.

\$1.75, prepaid, at THE INDIA RUBBER WORLD office.

# **PROOFERS OF CLOTH FOR THE TRADE.**

# **MOULD AND PRESS WORK.**

**PLYMOUTH RUBBER CO.**  
STOUGHTON, MASS.

Manufacturers of "NERV-EZE" whole and lift Heels.  
*Mention The India Rubber World when you write.*



THE  
SUBMARINE  
(PATENTED)

Will Positively Keep the Hair Dry.

**D. C. HALL & CO.,**  
86 LEONARD ST., NEW YORK.

MANUFACTURERS OF

**BATHING CAPS,**

**HATS and  
HOODS.**

THE  
SUBMARINE  
AND  
LIBERTY.  
PATENTED.



*Mention The India Rubber World when you write.*

ESTABLISHED 1875

# **MATTSON RUBBER CO.**

No. 26 West Broadway, New York

MANUFACTURERS OF

Dress Shields and Dress Shield Materials

Stamp Rubbers and Sponge Backing

Hat Bags and Hat Manufacturers Rubber Supplies

Erasive Rubbers

All kinds of MOULD WORK

Mixing and Calendering for the Trade

*Mention The India Rubber World when you write*

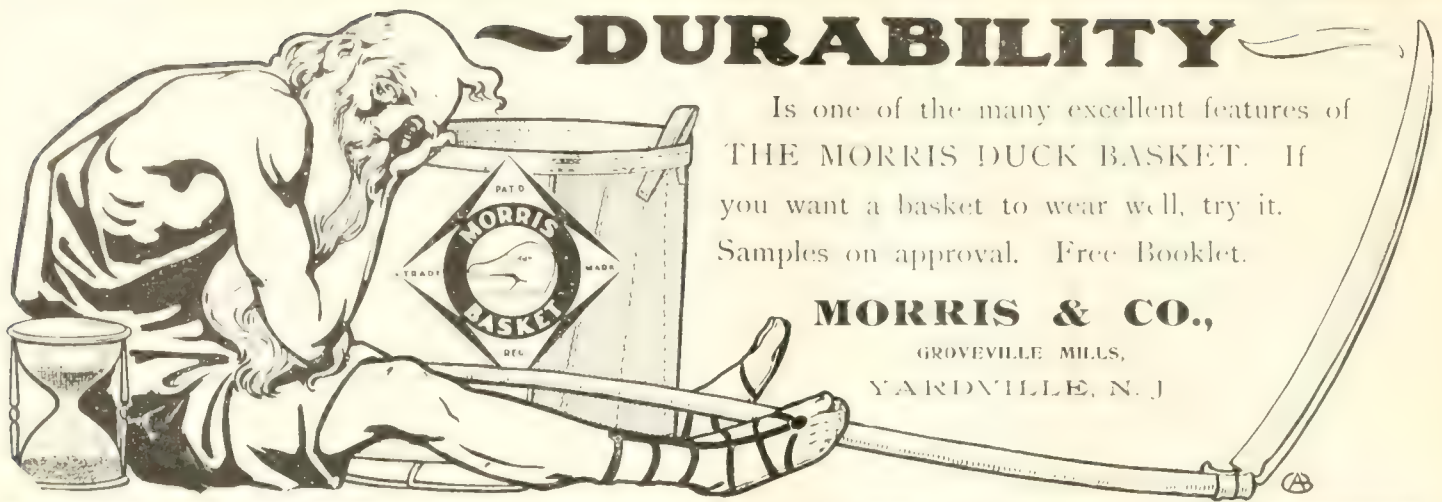
# **The Atlas Chemical Co.** NEWTONVILLE, MASS.

MANUFACTURERS OF

**SULPHURET OF ANTIMONY**  
FOR THE RUBBER TRADE.

*Mention the India Rubber World when you write*



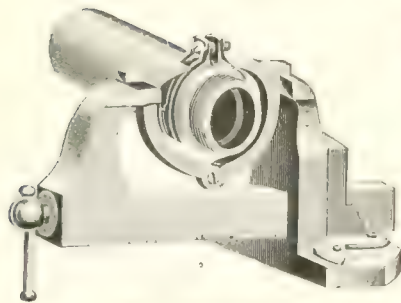


**~DURABILITY~**

Is one of the many excellent features of  
THE MORRIS DUCK BASKET. If  
you want a basket to wear well, try it.  
Samples on approval. Free Booklet.

**MORRIS & CO.,**  
GROVEVILLE MILLS,  
YARDVILLE, N. J.

## Specify Sherman Hose Clamps.



Method of applying clamps.

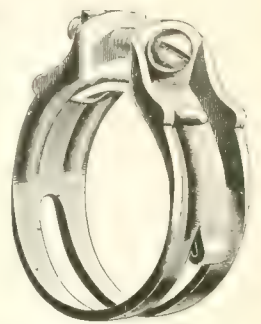


Sherman Brass Hose Clamps may  
be applied with a screw driver alone but for large  
sizes and heavy pressure are put on tighter and  
quicker with bench vise and vise jaws as shown.

Sherman Brass Hose Clamps are  
made of extra heavy sheet brass. They  
have no weak places like castings. They do not rust on  
hose. Make complete circle. Tongue slides in channel and does not  
dig into hose. Sold by Jobbers.

Made by H. B. SHERMAN MFG. CO.

Battle Creek, Michigan.



Sherman Hose Clamps.

Mention The India Rubber World when you write.

## William R. Thropp,

Manufacturer of

Rubber Washers, Grinders and Refiners.

Automatic Jar Ring Lathes.

Hydraulic Steam Presses, Vulcanizers.

Moulds and Special Machinery.

Bicycle Tire Moulds a Specialty.

TRENTON, N. J., U. S. A.

Mention The India Rubber World when you write.

## MOULDS

Especially Vehicle Tire Moulds

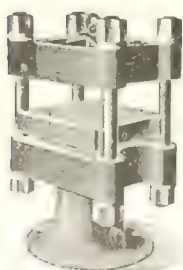
ALSO

Hydraulic and Hand Presses,  
Ring and Disc Cutting Machinery,  
Tubing Machines, etc.

THE WILLIAMS FOUNDRY AND  
MACHINE CO.,

Akron, Ohio.

Mention The India Rubber World when you write.



## W. B. SMITH WHALEY & CO.,

Mechanical and Mill Engineers,

1012 TREMONT BUILDING,  
BOSTON, MASS.

1328 MAIN STREET,  
COLUMBIA, S. C.

ELECTRIC POWER TRANSMISSION A SPECIALTY.

Parties interested in electric driven machinery  
are invited to correspond with our Boston Office.

Mention The India Rubber World when you write.

## Embossing Calenders

FOR

Artificial Leather, Table Oil Cloth  
and Carriage Covers.

## Drying Machines

with Copper Cylinders for Cotton Duck,  
Drills and Sheeting.

THE TEXTILE-FINISHING MACHINERY CO.,  
PROVIDENCE, R. I.

Mention The India Rubber World when you write.

# RUBBER GOODS

HARD RUBBER GOODS  
COTTON RUBBER LINED  
HOSE

LINEN HOSE

Office and Factory  
TRENTON, N. J.

MECHANICAL  
RUBBER  
GOODS

NEW YORK OFFICE  
80 Reade St.

CHICAGO OFFICE  
17 La Salle St.

JOS. STOKES RUBBER CO.



# THE NEW CENTURY RUBBER CO.

MANUFACTURERS OF

## Reclaimed Rubber

**Facilities:** New factory: machinery, our own design. **Quality:** We claim flexibility, strength and durability. The results of twenty-five years' practical experience. We guarantee our product to be absolutely free from ingredients that are in any way detrimental to the life of manufactured rubber goods.

### WORKS:

EAST BURLINGTON, N. J.

Address all communications to office:

515 DREXEL BUILDING, PHILADELPHIA, PA.

*Mention The India Rubber World when you write.*

ESTABLISHED 1848.

## TOCH BROTHERS,

468-470-472 WEST BROADWAY, - NEW YORK CITY.

FACTORY: LONG ISLAND CITY.

MANUFACTURERS OF

## Rubber Colors, Pigments and Chemicals

BRILLIANT TILE RED

GREEN for cold and hot cure

BALLOON RED

BLACKS

TILE YELLOW

KINGS YELLOW

WHITES

YALE BLUE

TRUE BLUE

MAROON

ERASER COLORS

BOLIVIAN RUBBER GUM

ANTIMONY SUBSTITUTE No. 504

SPECIAL COLORS FOR TILES.

If you want any special color made to order, communicate with us. If you are interested, send to us for copy of the "Chemistry of Colors," which will be mailed to you gratis.

*Mention The India Rubber World when you write.*

## RUBBER FLUX.

OUR Rubber Flux works as its name suggests. It fluxes refractory mill-stocks, increases their capacity for pigment absorption and assists milling to a remarkable degree.

It *prevents blooming* and does not sweat or blow.

Pronounced by experts the most useful and economical rubber substitute ever produced. Has been thoroughly tested and is generally used. Samples sent on application. Address "Rubber Dept."

MASSACHUSETTS CHEMICAL CO.,

170 SUMMER STREET, BOSTON, MASS., U. S. A.

*Mention The India Rubber World when you write.*

## “SPECIAL”

## Zinc Oxide

for the

Rubber Trade.

The New Jersey Zinc Company,

11 BROADWAY,

NEW YORK.

*Mention The India Rubber World when you write.*

# TYPKE & KING, INDIA RUBBER CHEMISTS, ETC.

OFFICES, 47 WILSON ST., FINSBURY SQUARE, LONDON, ENGLAND.

JOSEPH CANTOR, AGENT IN U. S., WALLACE BUILDING, 56-58 PINE ST., NEW YORK.

## RUBBER SUBSTITUTES,

MADE FROM REFINED RAPE SEED OIL. FREE FROM ACID.

FINE CHEMICALS FOR RUBBER WORKING, GUARANTEED RELIABLE, AND NOT TO VARY

## CRIMSON & GOLDEN SULPHURETS OF ANTIMONY.

Mention The India Rubber World when you write.

**PURE  
SOFT  
SULPHUR**

ESTABLISHED 1841.

INCORPORATED 1897

**Bergen Port  
Sulphur Works**

ORIGINAL MANUFACTURERS  
OF

**PURE SOFT SULPHUR**

PREPARED ESPECIALLY FOR

Rubber Manufacturers.

T. & S. C. WHITE CO.,  
28 Burling Slip, NEW YORK.

Mention The India Rubber World when you write.

**BENZOL**

HEADQUARTERS FOR  
**ALL GRADES**  
of Coal Tar Naphtha and  
Benzol.

Samples and prices on application

CHEM. DEPT.,  
BARRETT MFG. CO.,  
Philadelphia.

**SULPHUR**

BROOKLYN SULPHUR WORKS.  
Manufacturers of

Double Refined and Sublimed  
**FLOUR SULPHUR**

Especially adapted to the use of  
RUBBER MANUFACTURERS

AND WARRANTED FREE FROM GRIT.  
**BATTELLE & RENWICK**  
163 Front St., New York.

First Qualities.  Brand.

## ANTIMONY GOLDEN SULPHURET

Always contains same constant percentage  
of Free Sulphur.

Action Ges. Georg Egestorff's Salzwerke,  
Linden, near Hanover, Germany.

Mention The India Rubber World when you write.

**H. L. TERRY,**

Fellow of the Institute of Chemistry.

Analytical and Consulting Chemist.

Is open to be consulted on all matters relating to the  
technology of India-rubber, and to conduct Analyses  
of Rubber Goods.

LABORATORY:

23 HOPWOOD AVE.,  
MARKET PLACE.

MANCHESTER, ENGLAND.

**New Process Pitch**  
from  
**Long Leaf Pine**

10 GRADES  
Light Amber, Dark,  
Black

Absolutely free from  
Pyroligneous Acid

Send for Mail Samples

E. B. WEED & CO., Fayetteville, North Carolina.

Mention The India Rubber World when you write.

## Chemical Analysis of

Crude materials and Rubber Compounds; Insulating, Waterproofing, Hose,  
Tires, Shoes, Heels, Gaskets, Mats, Bands, Packing, Belting, Unvulcanized, Vul-  
canized, Sulphur, Mineral fillers determined. Substitute. Reclaimed Rubber  
stock. [Member Am. Chem. Soc.; M. S. C. I., London; M. D. C. Gesell, Berlin.]

**DURAND WOODMAN, Ph. D.;**

ANALYTIC AND TECHNICAL CHEMIST,

127 PEARL STREET,

NEW YORK

Mention The India Rubber World when you write.

**FOSSIL  
FLOUR**

For reducing cost of

**RUBBER COMPOUNDS**

and improving quality of products.  
Samples and information free.

THE FOSSIL FLOUR COMPANY

229 PEARL STREET,  
NEW YORK.

# SUBSTITUTES

and RUBBER MANUFACTURERS'  
SUPPLIES.

THE STAMFORD RUBBER SUPPLY CO.,  
STAMFORD, CONN.

D. CARTER BELL, General Manager

W. F. GILLESPIE, Treasurer

Mention The India Rubber World when you write.



Established 1880

---

Philadelphia  
Rubber Works  
Reclaimed  
Rubber

Philadelphia  
U. S. A.

---

Foreign Representatives:

For Great Britain

Kuhn & Co.,

31, Lombard Street, London, E. C.

For the Continent

H. P. Moorhouse,

29, Rue des Petites-Écuries, Paris.

# PEQUANOC RUBBER CO.

MANUFACTURERS OF

## Pure Reclaimed Rubber

by an improved mechanical process, without the use of acids, or alkalies. A strictly high-grade superior product, absolutely bone dry, clean and reliable at all times.

Factory and Office: **BUTLER, NEW JERSEY.**

Telephone: 16 Butler.

SAMPLES AND PRICES ON APPLICATION.

*Mention The India Rubber World when you write*

## RAYMOND RUBBER CO.,

MANUFACTURERS OF

NEW YORK OFFICE,

64 STONE STREET.

## RECLAIMED RUBBER,

OFFICE AND FACTORIES, TITUSVILLE, NEW JERSEY.

## NEW JERSEY RUBBER COMPANY,

MANUFACTURERS OF ALL KINDS OF

## RECLAIMED \* RUBBER,

Auxiliary Plant for Trimmings, daily Capacity of 20,000 Pounds. Total daily Capacity 45,000 Pounds.

Office and Factories, **LAMBERTVILLE, NEW JERSEY.**

*Mention The India Rubber World when you write.*

## ORIGINAL IDEAS

Applied to

Rubber Moulds, Matrixes, Special Machines,

- - and - -

Mechanical Problems in  
Rubber Factories.

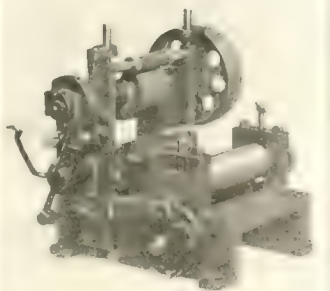
Fine Work a Specialty.

Customers all over  
the World.

Excelsior  
Machine Works,

R. H. PROBERT, Proprietor,

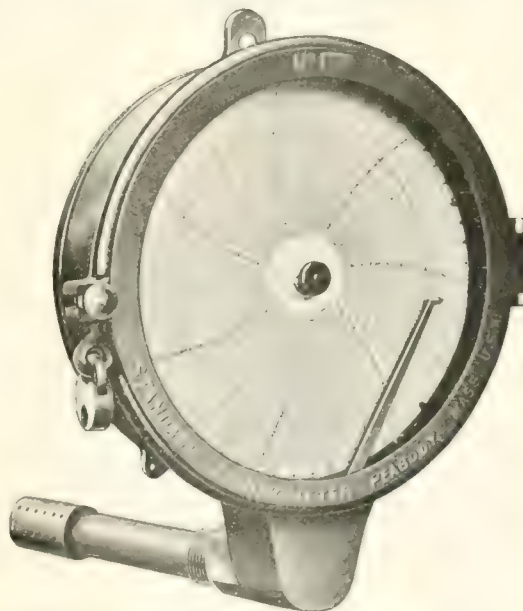
AKRON, OHIO.



AUTOMATIC CUTTER FOR RUBBER TUBING.

*Mention The India Rubber World when you write.*

## RECORDING THERMOMETERS for VULCANIZERS.



NO 200 WITH EXTENSION.

Made to go through wall and register on outside without opening doors.

MANUFACTURED BY

**HELIOS-UPTON CO.,**  
PEABODY, MASS.

*Mention The India Rubber World when you write.*



ESTABLISHED 1856.

**WILLIAM SOMERVILLE'S SONS,**3, COOPERS ROW,  
LIVERPOOL, ENGLAND.118-120 JOHN STREET,  
NEW YORK, U. S. A.DEALERS IN **SCRAP RUBBER.**  
ALL KINDS OFCABLE ADDRESS: LIVERPOOL - MAYFLOWER.  
NEW YORK - SOMERVILLE.CODES: A. B. C.  
LIEBERS.*Mention the India Rubber World when you write.***E. BERS & CO.,**

ESTABLISHED 1890.

CABLE ADDRESS:

BERSANDO, PHILA.

CODES, A B C, 4TH ED., AND PRIVATE.

NEW YORK HOUSE,  
10½ DESBROSSES ST.

COMMISSION MERCHANTS AND DEALERS IN

**SCRAP RUBBER,**

FOREIGN AND DOMESTIC CORRESPONDENCE SOLICITED.

22 AND 24 So. DELAWARE AVE., PHILA.

*Mention the India Rubber World when you write.***WM. H. CUMMINGS & SONS**  
**BUY AND SELL RUBBER WASTE.**Cable Address,  
UNITMOSQUE.

P. O. Box 732.

54-56 Harrison Street, New York, U. S. A.

*Mention The India Rubber World when you write.***THEODORE HOFELLER & CO.,**

Nos. 98, 100 and 102 TERRACE, BUFFALO, N. Y., U. S. A.

FOREIGN AND DOMESTIC CORRESPONDENCE SOLICITED.

Cable Address, HOFELLER, BUFFALO.

A. B. C. and Lieber's Codes Used.

**LARGEST DEALERS IN OLD RUBBER IN THE WORLD.***Mention the India Rubber World when you write.***FEIST STRAUSS,**EXPORTER OF **WASTE RUBBER and OLD GOLOSHES,**IMPORTER OF **RECLAIMED RUBBER.**

Hasengasse 12, FRANKFORT-ON-MAIN, GERMANY.

Cable Address: "Gutta-Frankfurtmain."

A B C Code, Lieber's Code.

CORRESPONDENCE SOLICITED.

*Mention The India Rubber World when you write.***S. BIRKENSTEIN & SONS**

BUY AND SELL

**All kinds of RUBBER SCRAP**

48-50-52 Michigan St., CHICAGO

*Mention The India Rubber World when you write.***SALOMON BROS. & CO.,**

99 NASSAU STREET,

NEW YORK.

**All kinds of RUBBER SCRAP,**

Boots and Shoes, Solid and Pneumatic Tires,

Air Brake Hose, Buffers, Heavy Rubber.

*Mention The India Rubber World when you write.***N E W Y O R K C I T Y**

The firm of W. C. Coleman Co., late of Boston, dealers in all kinds of scrap rubber, are now located in New York City, at No. 154 West Broadway.

THEO. S. BASSETT, President.  
MAX LOEWENTHAL, Treasurer.

R. A. LOEWENTHAL, Vice President.  
WALTER T. ROSEN, Secretary.

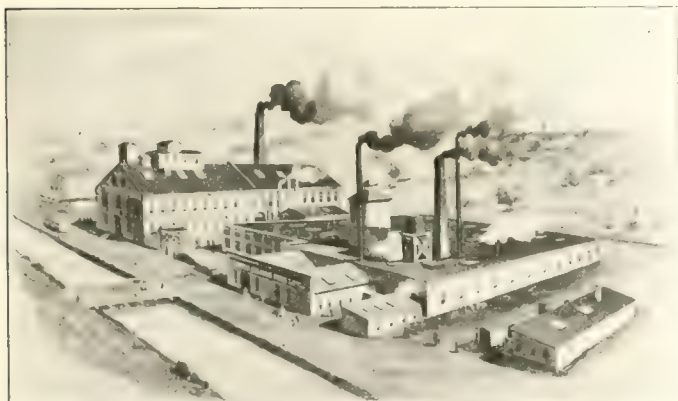
# U. S. RUBBER RECLAIMING WORKS.

## Manufacturers of RECLAIMED RUBBER.

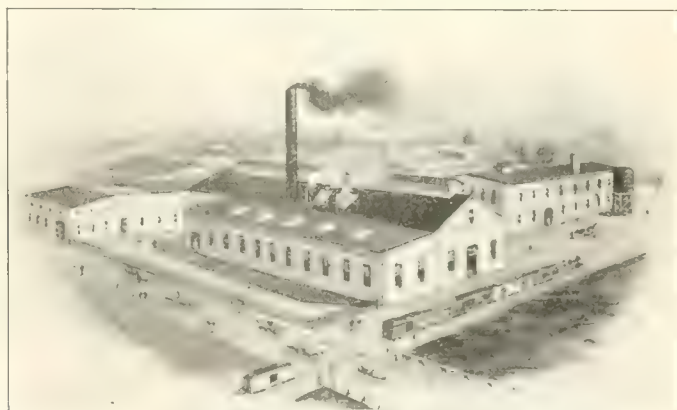
Offices: No. 127 DUANE STREET, NEW YORK.



FACTORY AT BUFFALO, N. Y.



FACTORY No. 1, SHELTON, CONN.



FACTORY No. 2, SHELTON, CONN.

NEW ENGLAND REPRESENTATIVE:

OTTO MEYER, No. 161 Summer Street, Boston.

FOREIGN REPRESENTATIVES:

WM. SOMERVILLE'S SONS, 3, Cooper's Row, Liverpool, England.

Great Britain and the Continent of Europe.

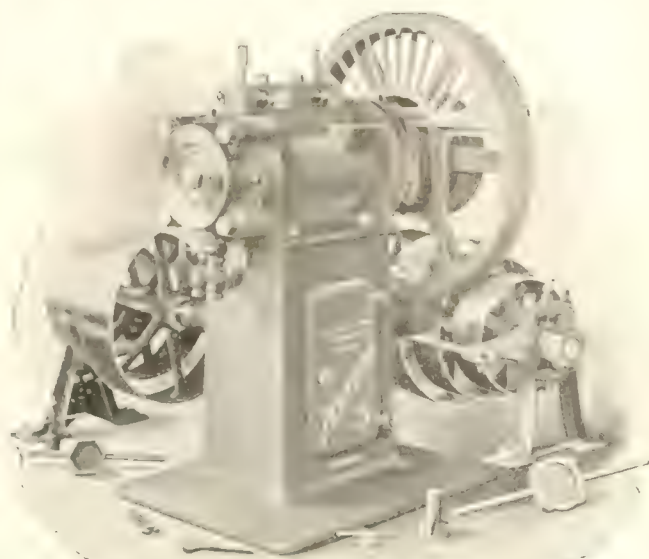
G. BRICE, 92, Rue de la Victoire, Paris, France.

Seul Agent Dépositaire. France and Belgium.

*Mention The India Rubber World when you write.*



# RUBBER TUBING WORK



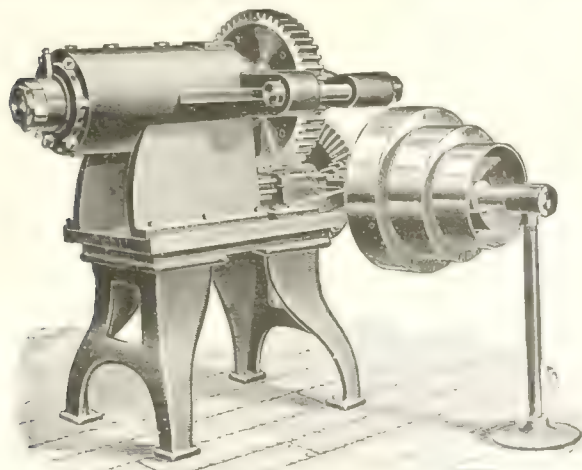
most nearly approaches perfection in our Perfected Tubing machines. These machines are notable both for the perfection of their work and their great capacity. One of them will equal in output a half-dozen ordinary machines, and with output a vital factor in the competition for business they become great profit earners.

**JOHN ROYLE & SONS, Paterson, N. J., U. S. A.**

*Mention The India Rubber World when you write*

## CLARK'S Reliable Tubing Machine

FOR THE MANUFACTURE OF RUBBER TUBING AND CORD,  
And also the Covering of Electrical and Telephone Cables.



MANUFACTURED IN 4 SIZES BY

**EDRED W. CLARK, MACHINIST,**

Rubber Moulds and Rubber Machinery, Screw and Hydraulic Presses a Specialty.

No. 31 WELLS STREET, HARTFORD, CONN.

*Mention The India Rubber World when you write.*



## THE MASON Reducing Valves

ARE THE WORLD'S STANDARD VALVES.

For automatically reducing and absolutely maintaining an even steam or air pressure.

*They are adapted for every need and guaranteed to work perfectly in every instance.*

WRITE FOR FULL INFORMATION AND SPECIFIC REFERENCES

**THE MASON REGULATOR CO. Boston, Mass., U.S.A.**

## The Akron Commercial Co.,

Animal, Vegetable and Fish Oils,  
Chemicals and Supplies for - - -

**POTTERIES, PLATERS AND RUBBER MANUFACTURERS.**

WAREHOUSE AND TRANSFER,  
MANUFACTURERS' AGENTS, Etc.

**AKRON, OHIO.**

Office: 366 SOUTH MAIN STREET. Telephone, 894.

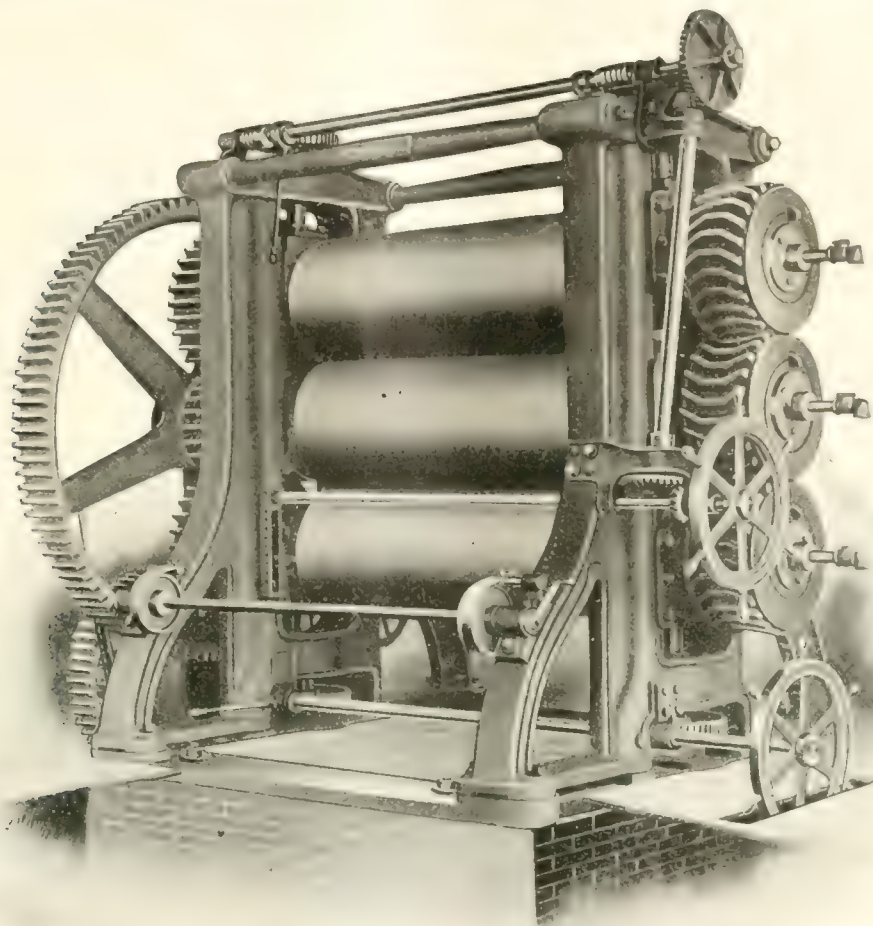
Warehouse: WEST CENTER STREET. " 422.

*Mention the India Rubber World when you write.*

# BIRMINGHAM IRON FOUNDRY,

DERBY, CONN., U. S. A.

Oldest and Largest Makers of RUBBER MILL MACHINERY in the United States.



THREE ROLL CALENDER.

**CALENDERS - GRINDERS - MIXERS**

**WARMERS - WASHERS - REFINERS**

**HYDRAULIC PRESSES - HOSE MACHINERY**

**SPECIAL MACHINERY**

*Mention The India Rubber World when you write*



# AMERICAN TOOL & MACHINE CO.

109 BEACH ST.

BOSTON MASS.

Double and Single End Spreaders,  
Doubling Machines, Churns, Etc.

WRITE FOR CATALOGUE AND PRICES.

*Mention The India Rubber World when you write.**Mention The India Rubber World when you write.*

## Our New 2 Tubing Machine

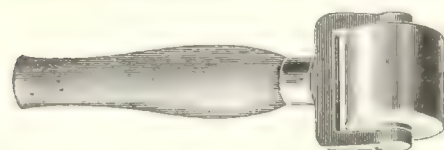
is provided  
with thrust  
roller bearings  
and cut gears  
and is just  
right for small  
work. . . . .

A. ADAMSON,  
AKRON, OHIO.

Manufacturer of Screw and Hydraulic Presses, Accumulators,  
Jar Ring Lathes, Tubing Machines, Wringer Roll Grinders, Band  
Cutting Machines, Wrapping Machines, Cement Mixers, Molds,  
Steam Traps, etc.

*Mention The India Rubber World when you write.*

HAND ROLLERS, Metal or Rubber.



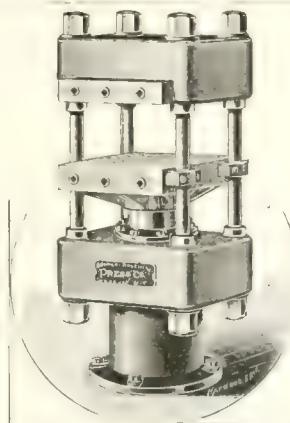
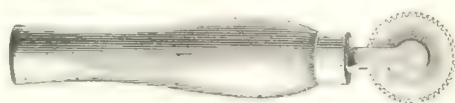
CALENDAR ROLL  
ENGRAVING,  
MOLDS, etc.

CUTTING DIES, ALL KINDS.

The HOGGSON & PETTIS MFG. CO.,  
NEW HAVEN, CONN., U. S. A.

*Mention The India Rubber World when you write.*

HAND STITCHERS,  
DOUBLE, SINGLE,  
PLAIN and FANCY.  
Any kind to order.



## STEAM PRESS

◆ — FOR — ◆  
MECHANICAL GOODS.

HYDRAULIC OR . . .  
KNUCKLE JOINT.

WRITE FOR PRICES.

BOOMER & BOSCHERT PRESS CO.,  
336 West Water Street,  
SYRACUSE, N. Y.

*Mention The India Rubber World when you write.*

Handwork is costly  
and inaccurate.

Anything that the hands can do  
can be done by Machinery.

No Problem is too Difficult for us.

Do you want a Machine for any  
Purpose in Rubber Work?

Write to us and we will Produce it.

WELLMAN SOLE CUTTING MACHINE CO.,  
MEDFORD, MASSACHUSETTS.

A. M. STICKNEY, President.

EDWARD BROOKS, Treasurer.

*Mention The India Rubber World when you write.*

ESTABLISHED 1848.

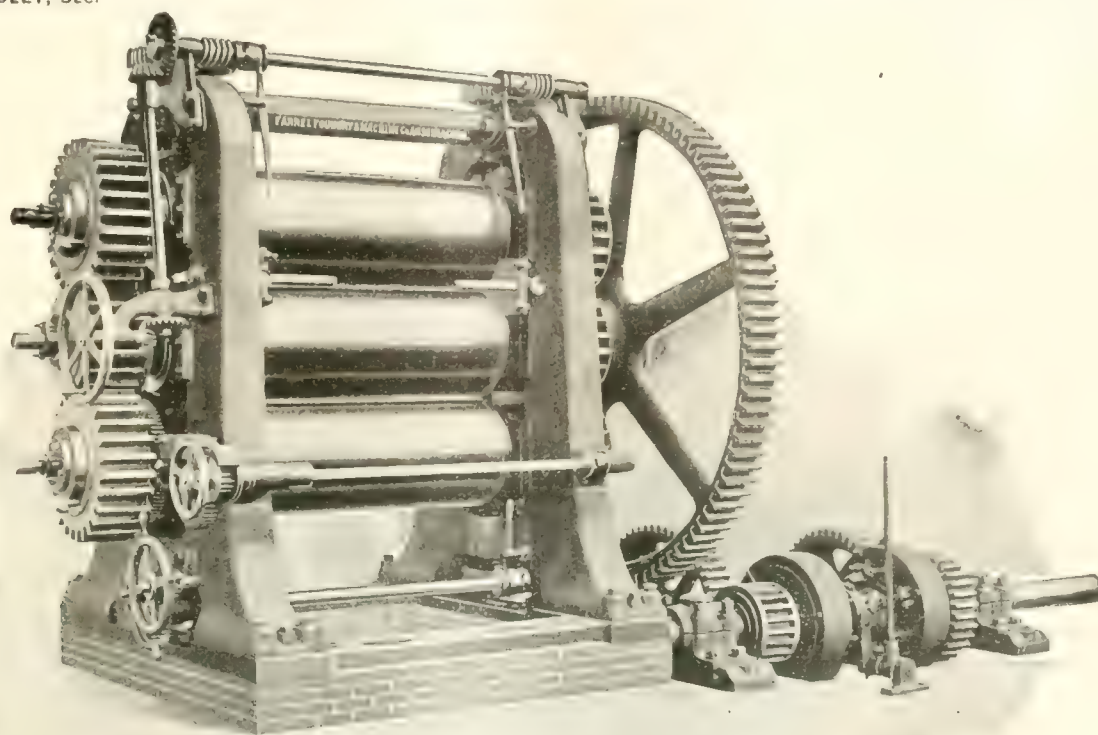
# Farrel Foundry and Machine Co.,

Largest Manufacturers in the World of —

# Rubber Machinery.

FRANKLIN FARREL, PRES.  
CHARLES F. BLISS, TREAS  
FRANK E. HOADLEY, SEC.

ANSONIA, CONN., U. S. A.



STANDARD THREE ROLL CALENDER.

CALENDERS, GRINDERS, MIXERS, CRACKERS, WASHERS,  
WARMERS and REFINERS.

HYDRAULIC BELT PRESSES, with Hydraulic Stretchers,  
MULTIPLE HEEL and SCREW PRESSES, PUMPS,  
ACCUMULATORS and FITTINGS.

---

LINOLEUM MACHINERY—Calenders, Grinders, Mixers, etc.  
Cabling, Winding, Spooling and Measuring Machines for Insulated Wire.  
Chilled Iron and Sand Rolls of all sizes, Steel and Wrought Iron Rolls.  
Shafting, Machine Moulded Gearing, Friction Clutches, etc.



**\$1,500,000****TEN YEAR 6% FIRST MORTGAGE SINKING FUND****GOLD BONDS OF****THE CONSOLIDATED UBERO PLANTATIONS COMPANY****DUE JULY 1, 1912****INTEREST PAYABLE JAN. 1 AND JULY 1****PRINCIPAL AND INTEREST PAYABLE AT THE****INTERNATIONAL TRUST COMPANY, BOSTON****Bonds issued in Coupon Form With Privilege of Registration as to Principal. Each \$500 Bond Carries with it \$500 of Stock****AS A BONUS****DIRECTORATE**ARTHUR W. STEDMAN, *President*. Of the firm of George A. Alden & Co., Importers of Crude Rubber, Boston, Mass.FREDERIC C. HOOD, *Vice President*. Treasurer of the Hood Rubber Co., Boston, Mass.F. H. NEEKEER, *Director*. Former Treasurer of the United States, Indianapolis, Ind.WILLIAM D. OWEN, *Director*. Ex-Secretary of State of Indiana, Indianapolis, Indiana.SEÑOR THOMAS MORAN, *Director*. Member of the House of Deputies and Director of the New York Life Insurance Co. in Mexico, Mexico City, Mexico.SEÑOR BERNARDO REYES, *Director*. Prominent Financier, Son of the present Minister of War of the Republic, Mexico City, Mexico.CHARLES A. MUEHLBRONNER, *Director*. Proprietor Iron City Produce Co., Importers of Foreign Fruits, Director German National Bank and Western Savings Bank, Pittsburgh, Pa.

**I**N order that the bond holders and stockholders may have as wide a representation as possible, an Advisory Board, composed of twenty-one representative business men, has been formed. These gentlemen will pass upon all questions of importance and make such recommendations to the Board of Directors as may seem warranted in each case.

Five Hundred Thousand Dollars (\$500,000) of this allotment of bonds, is offered for cash and the remaining One Million Dollars (\$1,000,000) on 45 monthly payments. Each payment as made, is secured by issuing to the purchaser a 6 per cent. First Mortgage Sinking Fund Gold Note. These notes recite upon their face that when a purchaser has \$500 worth of them he may exchange them for One (1) \$500 6 per cent. First Mortgage Gold Bond at the INTERNATIONAL TRUST COMPANY, Boston, and receive, at the time of exchange, an equal bonus of stock.

The business of the Company is the growing and marketing of all tropical products, including Oranges, Lemons, Grape and other Citrus Fruits, Yucca, Coffee, Rubber, Pineapples, etc.

The bonds and notes are secured by a First Mortgage upon all the assets of the Company, real and personal, including 6000 acres of land, 1600 of which is under cultivation; a General Store, Merchandise, Residences, Administration Building, Starch Mill, Pineapple Cannery, Tin Can Factory, Bank, Laborer's Quarters, Warehouses, Live Stock, Mules, Cattle, etc., etc., together with all the necessary equipment and machinery to carry on the business of the Company.

**The present actual cash value of the property is \$1,011,062.50.** The money realized from the sale of bonds now offered will be used for further development and acquisitions. The property is located in the richest agricultural district of Mexico, on the Tehuantepec National Railroad, equi-distant from the Gulf of Mexico and the Pacific Ocean.

Yearly Estimated Profits: Guaranteed Interest on Bonds 6 per cent.; Estimated Earning on Stock 3 per cent.; Total 9 per cent. As more development is made and as more crops come into bearing each year, it is confidently expected that the earnings will gradually increase.

We desire to call attention to the fact that the management of THE CONSOLIDATED UBERO PLANTATIONS COMPANY has financed a number of similar propositions in the past. Notably among these are UBERO PLANTATION COMPANY OF INDIANAPOLIS, now in its fourth year and which has paid successively 10, 15 and 20 per cent. the last three years. Also, THE UBERO PLANTATION COMPANY OF BOSTON, which paid a 10 per cent. dividend December 31, 1901, and has declared a dividend of 10 per cent., payable December 31, 1902. Both of these properties are contiguous to those of this Company.

The proposition to the public is a very simple one. You purchase of the Company one bond for each \$500. You can make this purchase for cash or at the rate of \$5 or more per bond, per month. The Company gives you a First Mortgage upon all of its assets, real and personal, to secure whatever money you invest in its bonds. These bonds are due in ten years, but as 70 per cent. of the net earnings each year are paid to the INTERNATIONAL TRUST COMPANY, Boston, Mass., for the redemption of the bonds, some bonds will be redeemed on the first day of each January. This is decided by lot so that your bond may be redeemed on the first day of any January. With each \$500 bond which you purchase, **the Company gives you \$500 of stock as a bonus**, so that when your bond has been redeemed, you still have your investment in the Company represented by your bonus of stock, *which has not cost you a single cent of your own money*. The stock issued as a bonus to the bond purchasers is now earning 3 per cent., and naturally participates more largely in the earnings of the Company after the bonds have been paid, because none of the profits of the Company will then be required to pay interest on the bonds. So that, if no further development was made this same stock will then earn 9 per cent. This, however, must of necessity increase as new crops come into bearing.

For further information, prospectus, copy of legal opinion as to the validity of issue of these bonds, or for blank forms of application, apply in person or by letter to

**THE CONSOLIDATED UBERO PLANTATIONS COMPANY,****No. 89 STATE STREET, BOSTON, MASS.**

# AN AMERICAN RUBBER SPONGE

Stock Pure

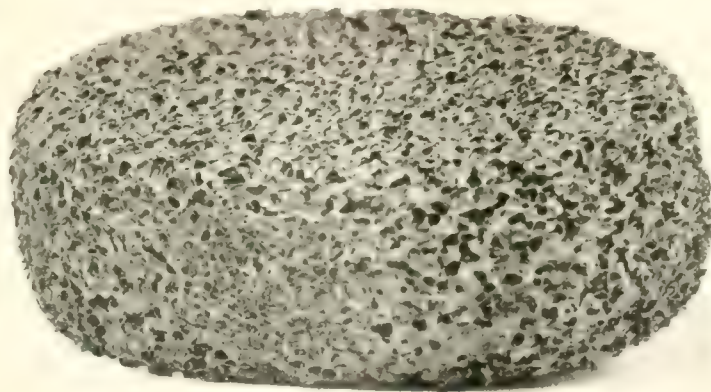
Color Just Right

Cells—Wonderfully Even

Weight—The Lightest Yet

Endurance Will Last For Years

Capacity—Holds More Water Than Any Other



We are now Filling Orders at Prices  
that will Interest the Whole Trade

## THE CAMP RUBBER CO.

ASHLAND, OHIO



# Small Advertisement Department.

## SITUATIONS WANTED.

**SUPERINTENDENT.**—A capable, practical man, with a complete knowledge and full experience in the manufacture of all kinds Mechanical Rubber Goods and Sundries, would like to make engagement with good reputable concern, where honest efforts and a disposition to work would be appreciated. Compensation reasonable. Best references. Address **EXPERIENCE**, care of **THE INDIA RUBBER WORLD**. [383]

**SUPERINTENDENT.**—A man of unquestionable ability in manufacturing Mechanical Rubber Goods, Druggists' Sundries, and Tires of all descriptions, wishes to form new connection; willing to assume all responsibilities and guarantee the best of results compatible with given facilities. Best of references from last employers. Address **SELF RELYING**, care of **THE INDIA RUBBER WORLD**. [306]

**WANTED.**—A position as Assistant Superintendent or Manager of a Calender and Mill Room in either a Boot and Shoe, or Mechanical Rubber Factory, by one who understands the compounding, mixing, and curing of all kinds of work, also a first class varnish maker, having had thirty years' experience at these branches of work; best references from last employer. Address **L. C. G.**, care of **THE INDIA RUBBER WORLD**. [398]

**WANTED.**—Position as Superintendent or Assistant Superintendent by a young man who has had several years experience in the compounding and manufacture of Druggists' and Mechanical Rubber Goods. Can furnish compounds and estimates. Would accept position in America or Great Britain. Address **J. R. C.**, care of **THE INDIA RUBBER WORLD**. [402]

**YOUNG** man with an unusual knowledge of Mechanical Rubber Goods, from both the factory and the sales end, is open for a position to handle a full line. Is familiar with Western trade, centering about Denver. Address **L. A.**, care of **THE INDIA RUBBER WORLD**. [403]

## SITUATIONS OPEN.

**ASSISTANT SUPERINTENDENT.** thoroughly experienced in the manufacture of Mechanical Rubber Goods—one who will stand no nonsense from the men under his charge. Address **GENERAL MANAGER**, care of **THE INDIA RUBBER WORLD**. [411]

**MANAGER.** A Manager wanted for the rubber supply department of an oil house. Must have experience in the chemicals, colors, fillers, and substitutes used by Rubber Manufacturers, but does not have to be posted on Crude Rubber. Applicant must give full account of his past and mention the salary he wants. Address **SUTHERS**, care of **THE INDIA RUBBER WORLD**. [396]

**SALESMAN** for Solid Tires. Must control large trade in New York city. Will pay good salary to the right man. Address **FACTORY**, care of **THE INDIA RUBBER WORLD**. [410]

**SALESMAN** wanted for New York city and its vicinity, having good business on all kinds of Mechanical Rubber Goods, principally among ship and railroad supply and hardware houses. Address **RUBBER GOODS**, care of **THE INDIA RUBBER WORLD**. [412]

**SUPERINTENDENT.**—Wanted experienced man in mechanical and moulded rubber goods. Capable of assuming entire charge of manufacturing. Address **C. B.**, care of **THE INDIA RUBBER WORLD**. [407]

**WANTED.**—Good Calender man who has had experience in running friction and good grades of rubber stock. Steady work at good wages. Address **CALENDER**, P. O. Box 1943, New York City. [386]

**WANTED.**—First class Mechanical Engineer thoroughly familiar with the installation of rubber machinery. Address **MECHANICAL**, care of **THE INDIA RUBBER WORLD**. [395]

**WANTED.**—Foreman for Hose Department. Must have schedules and formulae for making all grades and kinds of Rubber and Cotton Hose. Give age, experience, and where now or last employed, with references and other details, when you write to **HOSE**, care of **THE INDIA RUBBER WORLD**. [307]

**WANTED.**—A Mechanical Engineer who has had experience in handling all kinds of Rubber Machinery, Boiler, and Engine Plants, and in designing and making moulds for Rubber Goods. Can give sufficient inducements to warrant investigation of our proposition for the right man. Address **B.**, care of **THE INDIA RUBBER WORLD**. [404]

**WANTED.**—A thoroughly competent Superintendent for a large Rubber factory already in full operation. Must come well recommended and understand all kinds of Mechanical Rubber Goods. We have a proposition which will interest a good man. Address immediately, No. 10, care of **THE INDIA RUBBER WORLD**. [405]

**WANTED.**—Salesman to locate at Cincinnati. Must control large trade in solid tires, capable of managing branch, with stock of Mechanical Rubber Goods, especially Solid Tires. Replies strictly confidential. Address **SALES**, care of **THE INDIA RUBBER WORLD**. [400]

## BUSINESS OPPORTUNITY.

**HAVE \$15,000** to invest in rubber manufacturing business. Experienced, executive, enterprising and conservative. Address **T. B.**, care of **THE INDIA RUBBER WORLD**. [408]

## WANTED.

**AGENCY** wanted by London firm for Surgical Soft and Ebonite Rubber Goods. Good connection also on Continent. Reply to S. 7720, care of Neyroud & Son, Advertising Offices, 14, Queen Victoria street, London, E. C., England. [400]

## MACHINERY WANTED.

**WANTED.**—Mixing Mill and Washer. Give size of Rolls and kind of Drive. Address **B. B.**, care of **THE INDIA RUBBER WORLD**. [401]

## FOR SALE.

**ALL KINDS RUBBER WASTE.**—We sell at low price, pure unvulcanized Rubber Scrap from Cement Waste. Write for free sample. Best cash prices paid for rubber scrap and waste. Old Wringer Rolls bought and sold a specialty. **UNITED STATES WASTE RUBBER CO.**, No. 487 N. Warren avenue, Brockton, Mass.

**FOR SALE.**—Three brand new volumes of Supplement "A" Western Union Telegraphic Code (universal edition). These are specially arranged for manufacturers of Rubber Goods. The use of the code reduces telegraph bills 50 to 75 per cent. Publisher's price \$10 each; we will sell the three for \$20. Address **CODE**, care of **THE INDIA RUBBER WORLD**. [399]

**FOR SALE.**—One English Spreader, Measuring Machine, and a number of Churns. All in good condition. Address **LIBERTY**, care of **THE INDIA RUBBER WORLD**. [406]

## THE MARINE IRON WORKS



build powerful driving machinery for light draft Stern Wheel River Steamers; such as are most suitable for exploiting the streams used in gathering India-rubber. The firm makes a specialty of this class of work. It also makes a specialty of building Knock Down River

Steamers which they construct up to a carrying capacity of 150 tons.

## STATION A, CHICAGO, ILL., U. S. A.

*Mention The India Rubber World when you write.*

**DR. PETER T. AUSTEN**  
**COUNSEL AND EXPERT IN MANUFACTURING CHEMISTRY**  
Processes, Products, Patents, Wastes, Costs, Nuances, etc. Experimental Tests and Investigations. Expert in Patent and Technical Litigation.  
**89 PINE STREET, NEW YORK**

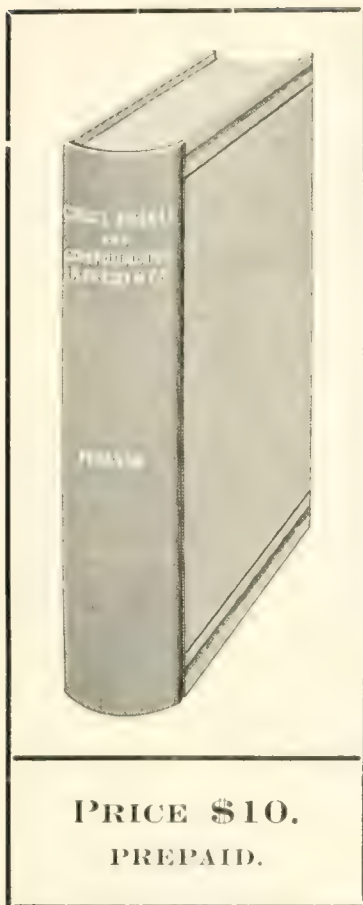
**Herbert S. Kimball,** 101 Tremont Street,  
Boston, Mass.  
**Chemical Engineer and Mill Architect.**

**Engineering Problems Relating to the Rubber Industry.**  
**Designs for Buildings and Equipment.**

*Mention The India Rubber World when you write.*

Write for free copy of Index to Mr. Pearson's book,

**"Crude Rubber and  
Compounding Ingredients."**



**PRICE \$10.**  
**PREPAID.**

## Crude Rubber and Compounding Ingredients.

A Text Book of Rubber Manufacture.

By HENRY C. PEARSON.

It is often a great convenience to have at hand, in convenient form for reference, a book that will remind a man of something which he needs to make use of in his work or business, without waiting to ransack his memory for it no matter how well he may once have learned it. "Crude Rubber and Compounding Ingredients" has been designed to serve just such a purpose. In fact the book was a gradual development of a manuscript reference book originally compiled by the author for his personal use alone. Finding how convenient it was to be able to turn to such a book, instead of having to depend on memory alone for the information it contained, the idea suggested itself that possibly others interested in the rubber industry might find these notes equally serviceable, and this is why they have been developed into a book. The reception of the book has been encouraging, and it may interest some who do not yet possess a copy of the book to know how some practical rubber workers regard it.

A superintendent writes: "It is a work that I want on my desk all the time, as it is surprising how often one wants to refer to it."

The manager of an important concern writes of the book: "Its value has grown on me; I now keep it by me in the factory and use it constantly, both for reference and suggestion."

THE INDIA RUBBER PUBLISHING CO.,  
No. 150 Nassau Street, New York.



## Rubber Manufacturing

State your REQUIREMENTS and we will be pleased to give you the results of our 15 years experience.

HOHMANN & MAURER MFG. CO.,  
ROCHESTER, N. Y., U. S. A.

Send for Illustrated Catalogue R.

London: 57 D, Hatton Garden, E. C. New York: 85 Chambers St.  
Chicago: 119 Lake St.

## The Tropical Agriculturist.

PUBLISHED MONTHLY BY  
A. M. & J. FERGUSON, COLOMBO, CEYLON.

ALL about Tea, Coffee, Cacao, Tobacco, Cardamoms, Cotton, Cinchona, Sugar, Liberian Coffee, Indiarubber, Cinnamon, Cassia, Coconuts, Palmira and other Palm Trees, Aloes and other Fibre Plants, Rice, Fruit Trees, Vegetables, Citronella and other Grasses yielding Essential Oils, Gum, and other Tropical Products.

Rates of Subscription for America, including Postage.

YEARLY, \$5 50. IN ADVANCE, \$3 00.  
HALF YEARLY, \$3 00. " " \$2 60.

The whole sixteen volumes published can be had for \$88.

## The Ceylon Observer

CIRCULATES throughout the island of Ceylon, and in Southern India. Its Overland Edition circulates extensively in Great Britain and Ireland. Annual subscription, \$15.00. *Ceylon Observer* (Weekly), \$8.00. The Advertising Rates are moderate. Special quotations given for Trade Announcements, appearing for a series of insertions.

Maps of Ceylon and Estates, Ceylon Directory, Planting Manuals, etc. Cheques should be drawn in favor of the MANAGER, *Ceylon Observer*.

Mention *The India Rubber World* when you write.

## Journal d'Agriculture Tropicale,

AGRICULTURAL, SCIENTIFIC, COMMERCIAL.

PUBLISHED BY

J. VILBOUCHEVITCH,  
10, Rue Delambre, Paris, (France.)

Subscription: ONE YEAR, - - - 20 FRANCS.  
SIX MONTHS, - - - 10 FRANCS.

THE JOURNAL OF TROPICAL AGRICULTURE deals with all branches of tropical cultivation, giving prominence to the planting of Caoutchouc and the scientific study of Caoutchouc species. The JOURNAL is international in character, and is planned especially to interest readers in all lands where the French language is spoken or read.

Mention *The India Rubber World* when you write.

## RUBBER AND COFFEE LANDS.

THE Mexican Land and Colonization Company owns several hundred thousand acres of land suitable for Rubber and Coffee in the State of Chiapas, Mexico. The majority of the coffee plantations in Soconusco now producing largely were originally purchased from this Company also La Zacualpa and other rubber plantations.

For further particulars apply to

O. H. HARRISON,

Spreckels Annex, 713 Market Street, SAN FRANCISCO.

Mention *The India Rubber World* when you write.

## Mexican Lands.

TO individual purchasers or plantation companies I will sell at rock bottom prices Rubber and Tropical Plantation lands in the states of Vera Cruz, Oaxaca, Tabasco, and Chiapas, in tracts to suit, from 1,000 to 1,000,000 acres. All statements as to title and value guaranteed.

I have 1,000,000 acres of heavily timbered rubber lands that I can subdivide if desired, in the heart of the Rubber, Mahogany, Cedar, and Tropical Woods country on the largest river in Mexico, with a magnificent saw milling and manufacturing site. It is proposed to cut off the timber,—taking care of the Rubber trees now growing and planting new ones, that will in a few years make a magnificent rubber forest at practically no cost. Address—

J. J. FITZGERRELL, 1a. San Francisco, No. 7, Mexico City, Mexico, or  
M. M. FITZGERRELL, 810 Olive Street, St. Louis, Missouri.

Mention *The India Rubber World* when you write.



**J. H. LANE & CO.,**

BOSTON. CHICAGO. 110 WORTH ST., NEW YORK. PHILADELPHIA. LONDON.

HOSE  
BELT  
SAIL  
WIDE**DUCKS**PAPER FELTS  
OUNCE GOODS  
ARMY DUCK  
OSNABURGS**AUTOMOBILE  
AND BICYCLE****TIRE FABRICS**

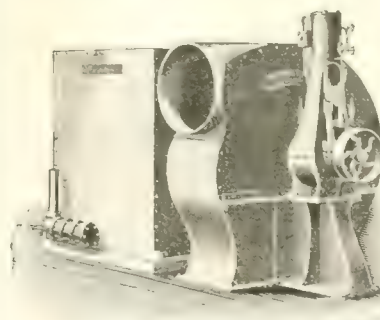
SHEETINGS AND DRILLS.

SEA ISLAND, EGYPTIAN, AND PEELER YARNS,  
AND FABRICS IN REGULAR AND SPECIAL CONSTRUCTION.*Mention The India Rubber World when you write.***WE would like you to see the  
WESTERN UNION  
RUBBER CODE**

IT COSTS \$10.00

You can get almost any other code  
for less, but we are presuming you  
want the best.

SAMPLE PAGES FREE

**INTERNATIONAL CABLE DIRECTORY COMPANY**Chesebrough Building, 17 State St., NEW YORK  
Salisbury House, London Wall, LONDON, E. C.*Mention The India Rubber World when you write.***YOU CAN  
CUT  
THE TIME OF DRYING RUBBER  
IN TWO**BY USING THE  
**STURTEVANT SYSTEM****B. F.  
Sturtevant  
Company,**

BOSTON, MASS.

NEW YORK,  
PHILADELPHIA  
CHICAGO,  
LONDON.

138

*Mention The India Rubber World when you write.***Vulcanizers of all sizes,****CALENDERS, GRINDERS, MIXERS AND WASHERS,****Hydraulic and Screw Presses,  
Hydraulic Pumps and Accumulators.****THOS. F. STEVENSON,**

120 LIBERTY ST., NEW YORK.

Correspondence solicited. Several second-hand Calenders and  
Grinders for sale.*Mention The India Rubber World when you write.***BONNER MANUFACTURING CO.,**MANUFACTURERS  
OF ALL GRADES**RUBBER SUBSTITUTES.**

GOODS MADE TO ORDER A SPECIALTY.

OFFICE: No. 89 State Street,

BOSTON, MASS.

*Mention The India Rubber World when you write.*

# Publishers' Page **INDIA RUBBER WORLD**

OFFICES:

No. 150 NASSAU ST., NEW YORK

## When To Send In Advertising "Copy."

OUR advertisers would confer a great favor upon the Publisher if, in sending in "copy" for changes, they would endeavor to do so as long as possible in advance of the date of publication—which is the last day of the month. We do not desire to fix any arbitrary rule as to the latest date in the month on which advertising copy will be received, for reasons may develop, just before the printing of the paper, to make a change of advertisement desirable. At the same time, it will add to the convenience of the business office if those who intend sending in advertising "copy" will consider, not the latest date on which it can be handled, but the earliest date on which it can be furnished. Time should be allowed for sending proofs to the advertiser.

## Our Report on Rubber Planting.

THE following letters, selected from the many that have been received since the publication of the first of the series "Rubber Planting on the Isthmus of Tehuantepec," will give a fair indication of the interest which they have called forth among people who are practically interested in rubber cultivation in Mexico:

H. C. PEARSON, New York.—*Dear Mr. Pearson:* This office is in fortunate receipt of May edition, your estimable publication in which appears your preface accounting Mexican trip. It is delightful, and only a few moments since same was under discussion amongst us in this establishment, of which I trust you still have memories. You had better believe this review and exchange of remarks was full of approbation and enjoyment to every one of us. While everything said is true to Mexican life, I think you would be a success as a novelist as you are a scientist. Most sincerely,

A. H. HUBER,  
Gerente General Plantación Rio Vista.

Minatitlan, Vera Cruz, Mexico, May 1, 1903.

MR. HENRY C. PEARSON.—*My dear Sir:* I have read with interest the beginning of your article on your trip to the Isthmus, and will await the remainder with equal interest. I will hope to read your conclusions as to the rubber growing industry on the Isthmus in your later articles, and also that when you again visit the Isthmus, you will include in your itinerary "Rio Vista," and that you will find it pleasant enough to make the same your headquarters, for in the language of this man's land, "*Aquí tiene Ustedes a...*" together with all the horses, boats, etc., that we possess. Yours very truly,

E. H. SWITZER,  
[Gerente General Plantación Rio Vista]

Santa Lucracia, Vera Cruz, Mexico, May 1, 1903.

HENRY C. PEARSON.—*Dear Sir:* I am just in receipt of the May number of your Journal, and at once read your able article on your trip through the rubber regions of the Isthmus of Tehuantepec. Your article is at once instructive and entertaining. Anyone who has ever been over the road before, as in my instance, can appreciate the different experiences such as you have depicted, probably better than one who is entirely a "gringo." I shall look forward with much interest to the forthcoming articles, as will everyone interested in tropical Mexico. Coming as they do from a source outside of plantation interests, they will carry with them much weight. When so much is being said both pro and con, regarding rubber growing, it is particularly fortunate that the real facts can be given from an unbiased and reliable point of view.

Very truly yours, JOHN A. WILFERTH.

Manager and Treasurer, Pan American Planters Co.

Chicago, May 1, 1903.

MY DEAR MR. PEARSON: I have just completed reading with a great deal of interest and considerable amusement your very interesting "First Letter" on your trip to Mexico. I shall certainly anxiously await letter No. 2, and hope to have it in the June number. Your description of the difficulties and experiences generally encountered are typically what I encountered myself on my first trip. I have been to

Mexico many times since, but I have neither read nor seen anything that has brought my first trip to mind so vividly as reading your article. I would respectfully suggest that this be gotten out in book form - - - If it ever is, kindly see that I become possessed of a copy, and oblige.

Yours very truly, W. M. H. ALLEN

Secretary and General Manager, Montezuma Rubber Plantation Co.,  
Oaxaca, Vera Cruz, Mexico.

MR. H. C. PEARSON, New York.—*Dear Sir:* I am writing to express my appreciation of your articles under "Rubber Planting on the Isthmus of Tehuantepec." They have been enjoyed thoroughly by a number of Elkhart citizens who have made the same trip, as well as by many others who would like to. Yours very sincerely,

W. M. H. ALLEN,  
General Agent, La Finca del Mexico, Plantation Co.,  
Elkhart, Indiana, June 1, 1903.

INDIA RUBBER PUBLISHING CO.—*Gentlemen:* Enclosed please find certified check for \$3 in payment for one year's subscription to THE INDIA RUBBER WORLD.

As we are vitally interested in the rubber industry, I feel that there is no more reliable publication than yours to which to go for general information on this topic. With best regards I beg to remain, Yours very truly,

THE MONTEZUMA RUBBER PLANTATION CO.,  
By E. B. BROWN, General Manager

Boston, May 10, 1903.

## Would-be Rubber Planters May Save Money.

ASHMORE RUSSAN, of 46, Leadenhall street, London, England, expert in the cultivation of tropical products, as Coffee, Cacao, Sugar-cane, Tobacco, etc., with special knowledge of India-rubber cultivation and collection in Mexico, Brazil, Africa, etc., is open to examine and report upon virgin lands or plantations in any part of the world. Terms, references, and specimen reports on application, as above.

## BARATA & SALVADOR,

Caixa Postal 380, - MANAOS (Brazil).  
IMPORT AND EXPORT MERCHANTS.

SPECIALTIES IN

## Rubber, Balata, Cocoa,

Piassaba, Hides, Egret Plumes, Balsam of Copaiba,  
Andisoba, Tonka Beans, Vanilla, Brazil Nuts, etc.

Mention The India Rubber World when you write.

### BY RETURN MAIL

Subscribers can learn where to buy any article or class of goods from the manufacturer, publisher or importer per conditions page one, each issue. On trial six months 10 cents. None free under any pretext.

GENERAL INFORMATION, 307 Main St., Binghamton, N. Y.

Mention The India Rubber World when you write.



## WHAT THE BUYER SHOULD KNOW ABOUT RUBBER GOODS.

WHILE it is impracticable for the buyer or user of rubber goods to acquire a close knowledge of their manufacture, there are some points which he should be familiar with, and which are of great importance, considering the constantly increasing variety of uses and kinds of rubber goods. The quality of rubber articles can be chiefly determined by the length of time for which they retain that elasticity, and in other cases that firmness, which is necessary for the respective purposes for which they are intended, without acquiring cracks, fractures, or other injuries, without softening, and without hardening. These properties are due to the quality of the crude rubber, as well as to the manufacture of the articles. The quality of crude rubber varies considerably, according to the different varieties of trees from which it is obtained, and it is impossible to say of a finished article from what kind of crude rubber or what mixture of different kinds of crude rubber it is made. For this distinction all auxiliaries are lacking and even an expert can only occasionally determine with absolute certainty the presence of a certain variety of crude rubber. To this must be added the fact that it is not possible in one and the same factory to obtain at all times the identical variety of crude rubber which they are wont to use. Since the supply is subject to the arrivals and market fluctuations, it will not rarely occur that rubber articles which are continually bought from the same maker sometimes contain a different crude Caoutchouc and exhibit varying properties in use. It is, of course, impossible to tell this when buying the rubber, and it is usually thought sufficient if the outward characteristics coincide with those of the goods purchased before.

Among the exterior properties of rubber articles that are considered indicative of their quality is, above all, the color, and in this respect the remark is often heard: "Red rubber is the best." This opinion, which has no justification whatever, is doubtless due to the handsome bright color of red rubber, which possibly, in the beginning, was used by the salesmen to recommend such rubber goods to the buying public and is now kept up, lest the consumption might drop off owing to a less favorable appearance of the article, for all other colorings of rubber are more or less unsightly and impure looking. The above judgment should, therefore, read: "Red rubber is the handsomest." Red rubber was introduced at one time by the manufacturers to a large extent because the coloring matter used for its production, on the one hand was considered a good vulcanizing agent, and on the other hand because this substance—golden sulphur of antimony—imparts a brilliant red to the rubber even upon admixture of a comparatively small quantity. If the quality could at all be judged by the color, the mouse-gray rubber should be pronounced the best, because outside of sulphur it does not contain any mineral admixtures. In consequence this rubber is the most elastic, but whether it combines the greatest elasticity with the greatest durability in every case is a matter of conjecture, for additions of an organic nature are also employed which frequently detract from the durability in a worse way than the mineral substances. It is a general rule that the elasticity of rubber increases with the decrease of its specific gravity, and particularly as regards elasticity it should at least be lighter than water, and hence should float on it. The firmness and toughness, such as are required, for tires, is quite another question. In order to impart these

qualities to rubber, large admixtures of mineral substances are necessary; hence for such uses a rubber of higher specific gravity is of advantage.

Beside by the composition, the quality of rubber articles is governed by the nature and mode of their manufacture, or rather the correct performance of the processes and manipulation pertaining thereto. To judge whether the manufacture has been carried out in a perfect manner, there are some important rules. Thus a rubber article should not receive a lasting impression by the pressure of the finger nail; the mark should disappear immediately. If this is not the case, the vulcanization has been imperfect and the material will quickly deteriorate and become useless. When the rubber is cut the cutting surfaces should not show any holes, however small, for wherever they are present the rubber will wear off more rapidly than in the compact, homogeneous portions, and many articles, such as rubber rollers, are entirely unfit for use if they exhibit any defective spots. These hollow spaces are caused by unskillful treatment of the Caoutchouc in vulcanizing and are seldom confined to small parts of the respective object, but usually extend over the whole, being evenly distributed and sometimes occurring in the form of large blisters, in which cases their action is naturally still more harmful. If this defect is noticed in any rubber article, it must be regarded as inferior.

Furthermore, the so called seams in articles of rubber should be only slightly visible. These are the places where the different sheets or plates are joined together. If the seams are plainly visible, and if upon stretching in the lengthwise direction considerable depressions appear, the rubber is not joined perfectly and the seams will easily split, as is sometimes seen on rubber hose. If the rubber peels off in layers, this is just as harmful and due to the same causes. Thick articles are made by cementing the layers one on the other. If this is not done in a careful manner, and if substances get in between which prevent mutual adhesion, the layers will become detached again, especially in use, and it may occur that the rubber splits in places thus becoming useless. It is also not infrequent that in rubber articles with a lining of fabric (as strong hose) or rubber lined goods the junction of the Caoutchouc and the fabric is imperfect and that the two substances become detached in places. This can be ascertained by sharply bending the respective article repeatedly, in various places and in different directions, when it can easily be felt whether the Caoutchouc and the fabric become displaced.

## A GERMAN SUBSTITUTE FOR CELLULOID.

THE United States consul general at Coburg, Mr. O. J. D. Hughes, reports to his government under date of October 11, 1902:

"The extensive commercial use of celluloid has caused a great many people to try to find substitutes for, or imitations of, it. In this part of Germany, a popular imitation has been made by dissolving in 16 parts—by weight—of glacial acetic acid, 1.8 parts of nitrocellulose, and adding 5 parts of gelatin. Gentle heating and stirring are necessary. After the mass has swollen, it is mixed with 7.5 parts of alcohol (96 per cent.), and stirring is continued. The resulting product is poured into molds, or, after further dilution may be spread in thin layers on glass. As an underlay for sensitive photographic films, the material has important advantages, not the least being that it remains flat in developing." Information regarding this material has yet to come through trade channels, but one would expect German chemists to be first to attempt a substitute for celluloid.



# BUYERS' DIRECTORY OF THE RUBBER TRADE.

CLASSIFIED LIST OF MANUFACTURERS AND DEALERS IN INDIA-RUBBER GOODS AND RUBBER MANUFACTURERS' SUPPLIES.

## INDEX TO ADVERTISERS.

NAME.	PAGE.
Adamson, A.	XXXIV
Akron Commercial Co.	XXXIV
Akron Rubber Works.	XXIX
Alden Rubber Co.	XXIX
Alden & Co., Geo. A.	XXIX
American Hard Rubber Co.	XXIX
American Tool & Machine Co.	XXXIV
American Vacuum Drying Machine Co.	XXII
Atlas Chemical Co.	XXIII
Austen, Peter T.	XXXIII
Bailey & Co., C. J.	XXIX
Bangan Rubber Co., Jos.	XXI
Barborton Rubber Wks.	XXI
Barata & Salvador.	XXI
Barrett Mfg. Co.	XXIII
Battelle & Renwick	XXIII
Bers & Co.	XXX
Birkenstein & Sons, S.	XXX
Birmingham Iron Foundry	XXXIII
Bloomington Soft Rubber Wks.	XX
Bonner Mfg. Co.	XX
Boomer & Boschert Press Co.	XXXIV
Boston Belting Co.	XXII
Boston Woven Hose & Rubber Co.	XX
Boston Bros & Co.	XXIX
Cabot, Samuel.	XXI
Camp Rubber Co.	XXXIII
Candee Rubber Co.	XXII
Cantor, Joseph.	XXIII
Chicago Rubber Wks.	XX
Chicago Tire & Rubber Co.	XX
Clark, Edred W.	XXXIII
Cleveland Rubber Wks.	XX
Combination Rubber & Belting Co.	XX
Conant Rubber Co.	XXIII
Consolidated Ubero Plantations Co.	XXXVI

Continental Caoutchouc & Gutta Percha Co.	XX
Cravenette Co., Ltd.	XXI
Cummings & Sons, Wm. H.	XXX
Coleman Co., W. C.	XXX
Crescent Belting & Packing Co.	XXI
Davidson Rubber Co.	XXIX
Dayrol Rubber Co.	XXIX
Egestorff's (Georg.) Salzworke.	XXXII
Empire Rubber Mfg. Co.	XX
Eureka Fire Hose Co.	XX
Eureka Rubber Mfg. Co.	XX
Excelsior Machine Wks.	XXXIX
Farrel Foundry & Machine Co.	XXXIX
Faultless Rubber Co.	XXIX
Fitzgerrell, J. J.	XXXIX
Fossil Flour Co.	XXXIII
General Information	XXI
Goodrich Co., B. F.	XXIX
Graham Rubber Co.	XXI
Granby Rubber Co.	XXI
Gutta Percha & Rubber Mfg. Co.	XXI
Gutta Percha & Rubber Mfg. Co., Toronto.	XXI
Hall & Co., D. C.	XXXIII
Harrison, O. H.	XXXIX
Hellios-Upton Co.	XXXIX
Hodgman Rubber Co.	XXI
Hoffeller & Co., Theodore.	XXX
Hoggson & Pettis Mfg. Co.	XXXIX
Hohman & Maurer Mfg. Co.	XXXIX
Holden, Leonard & Co.	XXXIII
Home Rubber Co.	XX
Hood Rubber Co.	XXIII
India-Rubber Pub. Co.	XXXIX
International Cable Directory Co.	XX
Jenkins Bros.	XXI
"Journal d'Agriculture Tropicale"	XXXIX

Kimball, Herbert S.	XXXIII
Kokomo Rubber Co.	XXI
La Crosse Rubber Mills Co.	XXIX
Lake Shore Rubber Co.	XXI
Lane & Co., J. H.	XXI
La Zacaalpa Rubber Plantation Co.	XXIX
Liverpool Rubber Co., Ltd.	XXIX
McGrory, Philip	XXI
Manhattan Rubber Mfg. Co.	XXI
Marine Iron Wks.	XXXIII
Mason Regulator Co.	XXXIII
Massachusetts Chemical Co.	XXXIII
Mattson Rubber Co.	XXIII
Mechanical Rubber Co.	XX
Meyer, Otto	XXIII
Miford Rubber Co.	XXIII
Morris & Co.	XXIV
Morse & Co., A. T.	XXI
New Century Rubber Co.	XXXI
New Jersey Car Spring & Rubber Co.	XX
New Jersey Rubber Co.	XXXIX
New Jersey Zinc Co.	XXXVI
New York Belting & Packing Co.	XX
New York Rubber Co.	VIII
Peerless Rubber Mfg. Co.	XXIII
Pequanoc Rubber Co.	XXIX
Philadelphia Rubber Wks.	XXVIII
Picher Lead Co.	XXI
Plymouth Rubber Co.	XXIII
Pure Gum Specialty Co.	XXIX
Raymond Rubber Co.	XXXIX
Republic Rubber Co.	XXIX
Revere Rubber Co.	XXI
Royle & Sons, John.	XXXII
Rubber Trading Co.	XXI
Russan, Ashmore.	XXI

Salomon Bros. & Co.	XXX
Schradet & Elbers.	XX
Sheep Mfg. Co., Henry H.	XXIV
Sherman Mfg. Co., H. B.	XXIV
Singer Manufacturing Co.	XXI
Smiley & Sons, Wm.	XXX
Spotlight Geo. W.	XXI
Stanford Rubber Supply Co.	XXXII
Stelman & Co., Inc., J. H.	XXI
Stevenson, Thos. F.	XX
Stokes Rubber Co., Jos.	XXV
Strauss, Feist.	XXX
Sturtevant Co., B. F.	XL
Taintor Mfg. Co., H. F.	VII
Terry, H. L.	XXXIII
Textile-Finishing Machinery Co.	XXXIV
Thropp, William R.	XXIV
Toch Bros.	XXXI
Traut & Sch. H.	XXXI
Trenton Rubber Mfg. Co.	XX
"Tropical Agriculturist"	XXXIX
Tyer Rubber Co.	XXI
Typke & King.	XXXVII
United States Rubber Co.	XXVII
U. S. Rubber Reclaiming Wks.	XXXI
U. S. Waste Rubber Co.	XXXVIII
Voorhees Rubber Mfg. Co.	V
Wanted and For Sale.	XXXVIII
Wood & Co., E. B.	XXXIII
Weld Mfg. Co.	XXI
Wellman Sate Cutting Machine Co.	XXI
Western Rubber Co.	XXXIV
Williams Foundry & Machine Co.	XXIV
Whaley & Co., W. B. Smith.	XXIV
White, T. & S. C. Co.	XXXIV
Whitman & Barnes Mfg. Co.	VII
Woodman, Ph.D., Durand.	XXVII
Yatman Rubber Co.	XXIV
Yendon, William.	XXXIII

## MECHANICAL RUBBER GOODS

Belting.  
Diaphragms.  
Gaskets.  
Gauge Glass Washers.  
Hose (Fire, Garden, Steam).  
Mats and Matting.  
Mould Work.  
Packing.  
Valves.  
Washers.

**Mechanical Rubber Goods—General.**  
Alden Rubber Co., Barborton, O.  
Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Chicago Rubber Wks., Chicago.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Continental Caoutchouc & Gutta-percha Co., Hanover, Germany.  
Crescent Belting & Packing Co., Trenton, N. J.  
Empire Rubber Mfg. Co., Trenton, N. J.  
Eureka Fire Hose Co., New York.  
Eureka Rubber Mfg. Co., Trenton, N. J.  
B. F. Goodrich Co., Akron, O.  
Graham Rubber Co., San Francisco and Seattle.  
Gutta Percha & Rubber Mfg. Co., N. Y.  
Gutta Percha & Rubber Mfg. Co., Toronto.  
Home Rubber Co., Trenton, N. J.  
Lake Shore Rubber Co., Erie, Pa.  
Liverpool Rubber Co., Liverpool, Eng.  
Manhattan Rubber Mfg. Co., New York.  
Mechanical Rubber Co., New York.  
National India Rubber Co., Providence.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
New York Belting & Packing Co., N. Y.  
New York Rubber Co., New York.  
Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, Ohio.  
Revere Rubber Co., Boston.

## MECHANICAL GOODS.

Jos. Stokes Rubber Co., Trenton, N. J.  
Trenton Rubber Mfg. Co., Trenton, N. J.  
Voorhees Rubber Mfg. Co., Jersey City  
Western Rubber Co., Goshen, Ind.  
Whitman & Barnes Mfg. Co., Akron, O.  
**Air Brake Hose.**  
Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Crescent Belting & Packing Co., Trenton, N. J.  
Eureka Rubber Mfg. Co., Trenton, N. J.  
N. J. Car Spring & Rubber Co., Jersey City.  
Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, Ohio.  
Revere Rubber Co., Boston-New York.  
Voorhees Rubber Mfg. Co., Jersey City  
Whitman & Barnes Mfg. Co., Akron, O.  
**Belting (Cotton).**  
Boston Woven Hose & Rubber Co.  
Eureka Fire Hose Co., New York.  
Peerless Rubber Mfg. Co., New York.  
Revere Rubber Co., Boston-New York.  
**Belting (Thresher).**  
Boston Woven Hose & Rubber Co.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Crescent Belting & Packing Co., Trenton, N. J.  
Peerless Rubber Mfg. Co., New York.  
**Billiard Cushions.**  
Alden Rubber Co., Barborton, Ohio.  
Boston Belting Co., Boston.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
B. F. Goodrich Co., Akron, O.  
Manhattan Rubber Mfg. Co., New York.  
New York Belting & Packing Co., Ltd.  
New York Rubber Co., New York.  
Revere Rubber Co., Boston-New York.  
Whitman & Barnes Mfg. Co., Akron, O.  
**Blankets—Printers.**  
Boston Belting Co., Boston.  
Hodgman Rubber Co., New York.  
Liverpool Rubber Co., Liverpool, Eng.

## MECHANICAL GOODS.

N. J. Car Spring & Rubber Co., Jersey City, N. J.  
Revere Rubber Co., Boston-New York.  
Voorhees Rubber Mfg. Co., Jersey City.  
**Boss Washers.**  
Combination Rubber & Belting Co., Bloomfield, N. J.  
**Brushes.**  
American Hard Rubber Co., New York.  
Boston Woven Hose & Rubber Co.  
C. J. Bailey & Co., Boston.  
**Buffers.**  
Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Crescent Belting & Packing Co., Trenton, N. J.  
Liverpool Rubber Co., Ltd., Liverpool  
**"Bull Dog" Packing.**  
Boston Woven Hose & Rubber Co.  
**Carriage Mats.**  
Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Crescent Belting & Packing Co., Trenton, N. J.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
Peerless Rubber Mfg. Co., New York.  
Voorhees Rubber Mfg. Co., Jersey City  
**Coin Mats.**  
Alden Rubber Co., Barborton, O.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
New York Belting & Packing Co., N. Y.  
**Cord (Pure Rubber).**  
Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Crescent Belting & Packing Co., Trenton, N. J.

## MECHANICAL GOODS.

Dayrol Rubber Co., Providence, R. I.  
Empire Rubber Mfg. Co., Trenton, N. J.  
Home Rubber Co., Trenton, N. J.  
Manhattan Rubber Mfg. Co., New York.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
New York Belting & Packing Co., N. Y.  
Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston-New York.  
Voorhees Rubber Mfg. Co., Jersey City.  
**Deckle Straps.**  
Boston Belting Co., Boston.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Liverpool Rubber Co., Liverpool, Eng.  
Mechanical Rubber Co., Chicago.  
New York Belting & Packing Co., N. Y.  
Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston-New York.  
**Door Springs.**  
Hodgman Rubber Co., New York.  
**Dredging Sleeves.**  
Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
N. J. Car Spring & Rubber Co., Jersey City.  
Republic Rubber Co., Youngstown, O.  
**Fleshing Bands.**  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Republic Rubber Co., Youngstown, O.  
**Force Cups.**  
Hodgman Rubber Co., New York.  
**"Forsyth" Combination Packing.**  
Boston Belting Co., Boston-New York.  
**Fruit Jar Rings.**  
Alden Rubber Co., Barborton, O.  
Boston Woven Hose & Rubber Co.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co., Bloomfield, N. J.







## RUBBER BUYERS' DIRECTORY (CONTINUED.)

## DRUGGISTS' SUNDRIES

## Combs.

American Hard Rubber Co., New York  
Dr. H. Traun & Sons, Harburg, Germany.  
Schrader & Ehlers, New York.

## Elastic Bands.

Davidson Rubber Co., Boston.  
Davol Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York-Boston.  
Tyer Rubber Co., Andover, Mass.  
Whitman & Barnes Mfg. Co., Akron, O.

## Erasive Rubbers.

Davidson Rubber Co., Boston.  
B. F. Goodrich Co., Akron, O.  
Mattson Rubber Co., New York.  
Whitman Rubber Co., Harrison, N. J.

## Finger Cots.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Faultless Rubber Mfg. Co., Akron, O.  
India Rubber Co., Akron, O.  
Pure Gum Specialty Co., Barberton, O.

## Gloves.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Davol Rubber Co., Providence, R. I.  
Faultless Rubber Co., Akron, O.  
India Rubber Co., Akron, O.  
Pure Gum Specialty Co., Barberton, O.

## Hard Rubber Goods.

American Hard Rubber Co., New York.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Davol Rubber Co., Providence, R. I.  
Schrader & Ehlers, New York.  
Stokes Rubber Co., Joseph, Trenton, N. J.  
Dr. H. Traun & Sons, Harburg, Germany.  
Tyer Rubber Co., Andover, Mass.

## Hospital Sheatings.

Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Conant Rubber Co., Boston.  
Davidson Rubber Co., Boston.  
Davol Rubber Co., Providence, R. I.  
Hodgman Rubber Co., New York.  
Plymouth Rubber Co., Stoughton, Mass.  
Tyer Rubber Co., Andover, Mass.

## Hot Water Bottles.

American Hard Rubber Co., New York.  
Cleveland Rubber Co., Cleveland, O.  
Davidson Rubber Co., Boston.  
Davol Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York-Boston.  
Tyer Rubber Co., Andover, Mass.

## Ice Bags.

Hodgman Rubber Co., New York.  
Pure Gum Specialty Co., Barberton, O.

## Ice Caps.

Pure Gum Specialty Co., Barberton, O.  
Tyer Rubber Co., Andover, Mass.

## Life Preservers.

Hodgman Rubber Co., New York.

## Mittens.

Davol Rubber Co., Providence, R. I.  
Faultless Rubber Co., Akron, O.

## Nipple Caps.

Peerless Rubber Mfg. Co., New York.

## Nipples.

Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Davidson Rubber Co., Boston.  
Davol Rubber Co., Providence, R. I.  
Faultless Rubber Co., Akron, O.  
Pure Gum Specialty Co., Barberton, O.  
Tyer Rubber Co., Andover, Mass.

## Notions.

American Hard Rubber Co., New York.  
Davidson Rubber Co., Boston.  
Tyer Rubber Co., Andover, Mass.

## Rulers.

American Hard Rubber Co., New York.

## Sponges (Rubber).

Camp Rubber Co., Ashland, Ohio.  
Chicago Tire & Rubber Co., Chicago.

## Stationers' Sundries.

American Hard Rubber Co., New York.  
Cleveland Rubber Co., Cleveland, O.  
Davidson Rubber Co., Boston.  
Davol Rubber Co., Providence, R. I.  
Goodyear Tire & Rubber Co., Akron, O.  
Hodgman Rubber Co., New York-Boston.  
Tyer Rubber Co., Andover, Mass.

## Stopples (Rubber).

Alden Rubber Co., Barberton, O.

## DRUGGISTS' SUNDRIES

Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Davol Rubber Co., Providence, R. I.  
Hodgman Rubber Co., New York.  
Manhattan Rubber Mfg. Co., New York.  
New York Belting & Packing Co., N. Y.  
Tyer Rubber Co., Andover, Mass.  
Whitman & Barnes Mfg. Co., Akron, O.

## Surgical Appliances.

Faultless Rubber Co., Akron, O.

## Syringes.

American Hard Rubber Co., New York.  
Cleveland Rubber Co., Cleveland, O.  
Davol Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York.  
Tyer Rubber Co., Andover, Mass.

## Throat Bags.

Cleveland Rubber Co., Cleveland, O.  
Davol Rubber Co., Providence, R. I.  
Tyer Rubber Co., Andover, Mass.

## Tobacco Pouches.

Pure Gum Specialty Co., Barberton, O.  
Tyer Rubber Co., Andover, Mass.

RUBBER  
FOOTWEAR

## Boots and Shoes.

American Rubber Co., Boston.  
Joseph Banigan Rubber Co., Providence,  
R. I.  
Boston Rubber Shoe Co., Boston.  
L. Candee & Co., New Haven, Ct.  
Granby Rubber Co., Granby, Quebec.  
Gutta Percha & Rubber Mfg. Co. of  
Toronto.  
Hood Rubber Co., Boston.  
Jersey Rubber Shoe Co., New York.  
Liverpool Rubber Co., Liverpool, Eng.  
Lycorning Rubber Co., Williamsport, Pa.  
Meyer Rubber Co., New York.  
National India Rubber Co., Boston-  
Providence.  
United States Rubber Co., New York.  
Wales-Goodyear Rubber Co., Boston.  
Woonsocket Rubber Co., Providence.  
Boston Woven Hose & Rubber Co.  
Chicago Tire & Rubber Co., Chicago.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Continental Caoutchouc & Gutta-percha  
Co., Hanover.  
Plymouth Rubber Co., Stoughton, Mass.  
Western Rubber Co., Goshen, Ind.

## Tennis Shoes.

American Rubber Co., Boston.  
Joseph Banigan Rubber Co., Providence,  
R. I.  
Boston Rubber Shoe Co., Boston.  
Granby Rubber Co., Granby, Quebec.  
Liverpool Rubber Co., Liverpool, Eng.  
National India Rubber Co., Providence.  
United States Rubber Co., New York.

## Tennis Soles.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Jos. Stokes Rubber Co., Trenton, N. J.

## Wading Pants.

Hodgman Rubber Co., New York.

MACKINTOSHED  
AND SURFACE  
GOODS

## Air Goods (Rubber).

Cleveland Rubber Co., Cleveland, O.  
Davol Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York.  
New York Rubber Co., New York.  
National India Rubber Co., Providence.  
Tyer Rubber Co., Andover, Mass.

## Aprons.

Hodgman Rubber Co., New York.

## Barbers' Bibs.

Davol Rubber Co., Providence, R. I.  
Tyer Rubber Co., Andover, Mass.

## Bathing Caps.

Conant Rubber Co., Boston.  
Davol Rubber Co., Providence, R. I.  
D. C. Hall & Co., New York.

## Bellows Cloths.

Boston Rubber Co., Boston.

## MACKINTOSHED GOODS.

Cleveland Rubber Co., Cleveland, O.  
Hodgman Rubber Co., New York.  
La Crosse (Wis.) Rubber Mills Co.

## Calendering.

La Crosse (Wis.) Rubber Mills Co.  
Milford Rubber Co., Boston.  
Plymouth Rubber Co., Stoughton, Mass.

## Canoe Beds.

Hodgman Rubber Co., New York.

## Carriage Ducks and Drills.

Cleveland Rubber Co., Cleveland, O.  
Empire Rubber Mfg. Co., Trenton, N. J.  
Eureka Rubber Mfg. Co., Trenton, N. J.  
Gutta Percha & Rubber Mfg. Co. of  
Toronto.

## Clothing.

Cleveland Rubber Co., Cleveland, O.  
Conant Rubber Co., Boston.  
Granby Rubber Co., Granby, Quebec.  
Gutta Percha & Rubber Mfg. Co. of  
Toronto.

Hodgman Rubber Co., New York.

Holden, Leonard & Co., Boston.

La Crosse (Wis.) Rubber Mills Co.

## Cravenette.

Cravenette Co., Ltd.

## Diving Dresses.

Hodgman Rubber Co., New York.

## Dress Shields.

Conant Rubber Co., Boston.

D. C. Hall & Co., New York.

Hodgman Rubber Co., New York.

Mattson Rubber Co., New York.

## Horse Covers.

Hodgman Rubber Co., New York.

## Leggings.

Cleveland Rubber Co., Cleveland, O.

Hodgman Rubber Co., Boston.

## Mackintoshes.

[See Clothing.]

## Proofing.

La Crosse (Wis.) Rubber Mills Co.

Milford Rubber Co., Boston.

Plymouth Rubber Co., Stoughton, Mass.

## Rain Coats.

Cravenette Co., Ltd.

## Sheets and Sheeting.

D. C. Hall & Co., New York.

DENTAL AND  
STAMP RUBBER

## Dental Gum.

American Hard Rubber Co., New York.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Tyer Rubber Co., Andover, Mass.

## Rubber Dam.

Cleveland Rubber Co., Cleveland, O.  
Davol Rubber Co., Providence, R. I.  
Hodgman Rubber Co., New York.  
Tyer Rubber Co., Andover, Mass.

## Stamp Gum.

Alden Rubber Co., Barberton, Ohio.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Mattson Rubber Co., New York.  
Mechanical Rubber Co., Chicago, Ill.  
N. J. Car Spring & Rubber Co., Jersey  
City, N. J.  
New York Belting & Packing Co., N. Y.  
Western Rubber Co., Goshen, Ind.

SPORTING  
GOODS

## Foot Balls.

Cleveland Rubber Co., Cleveland, O.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York.

## Golf Balls.

Boston Belting Co., Boston.  
Davidson Rubber Co., Boston.  
B. F. Goodrich Co., Akron, O.  
Whitman & Barnes Mfg. Co., Akron, O.

## Submarine Outfits.

Hodgman Rubber Co., New York.

## SPORTING GOODS.

## Sporting Goods.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Hodgman Rubber Co., New York.  
Tyer Rubber Co., Andover, Mass.

## Striking Bags.

Pure Gum Specialty Co., Barberton, O.

## ELECTRICAL

## Electrical Supplies.

American Hard Rubber Co., New York.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Lake Shore Rubber Co., Erie, Pa.  
Joseph Stokes Rubber Co., Trenton, N. J.  
Massachusetts Chemical Co., Boston.  
Tyer Rubber Co., Andover, Mass.  
Western Rubber Co., Goshen, Ind.

## Friction Tape.

Boston Belting Co., Boston.  
Boston Woven Hose & Rubber Co.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
B. F. Goodrich Rubber Co., Akron, O.  
Massachusetts Chemical Co., Boston.  
Mechanical Rubber Co., Chicago.  
Home Rubber Co., Trenton, N. J.  
Revere Rubber Co., Boston-New York.  
Whitman & Barnes Mfg. Co., Akron, O.

## Hard Rubber Goods.

American Hard Rubber Co., New York.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Joseph Stokes Rubber Co., Trenton, N. J.

## Insulating Compounds.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Gutta-Percha & Rubber Mfg. Co., To-  
ronto.  
Massachusetts Chemical Co., Boston.

## Insulated Wire and Cables.

National India Rubber Co., Providence.  
Splicing Compound.  
Home Rubber Co., Trenton, N. J.  
Western Rubber Co., Goshen, Ind.

## MISCELLANEOUS

## Architect.

Herbert S. Kimball, Boston.

## Books for Rubber Men.

India Rubber Publishing Co., N. Y.

## Cement (Rubber).

Boston Belting Co., Boston.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Manhattan Rubber Mfg. Co., New York.  
N. J. Car Spring & Rubber Co., Jersey  
City, N. J.  
New York Belting & Packing Co., N. Y.

## Chemical Analyses.

Durand Woodman, Phila., New York.  
H. L. Terry, Manchester, England.

## Chemical Expert.

Peter T. Austin, New York.

## Investments.

Consolidated Rubber Plantations Co. of  
Cairo, Boston.  
La Zacaalpa Rubber Plantation Co., San  
Francisco.

## Rubber Code.

International Cable Directory Co., N. Y.

## Rubber Lands For Sale.

Ashmore & Co., London, England.  
J. J. Fitzgerald, Mexico.  
O. H. Harrison, San Francisco.

## Rubber Planting.

Consolidated Rubber Plantations Co. of  
Cairo, Boston.  
La Zacaalpa Rubber Plantation Co., San  
Francisco.

## Steamers.

M. T. H. W. S., London.

## Thermometers.

Holman & Munier Mfg. Co., Rochester,  
N. Y.  
Helios-Upton Co., Peabody, Mass.



## MACHINERY AND SUPPLIES FOR RUBBER MILLS.

RUBBER  
MACHINERY

## Acid Tanks.

Birmingham Iron Foundry, Derby, Ct.

## Band Cutting Machine.

A. Adamson, Akron, O.

Birmingham Iron Foundry, Derby, Ct.

## Belt Folding Machines.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Belt Slitters.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Belt Stretchers.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Blowers.

B. F. Sturtevant Co., Boston.

## Boilers.

William R. Thropp, Trenton, N. J.

## Boot Trees.

Metal Last &amp; Tree Co., Boston.

## Buckles.

The Weld Mfg. Co., Boston.

## Calenders.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Textile Finishing Machinery Co., Providence, R. I.

Thos. F. Stevenson, New York.

## Castings.

A. Adamson, Akron, O.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Chucks (Lathe).

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Churns.

American Tool &amp; Machine Co., Boston.

## Cloth Dryers.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Clutches.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Crackers.

Birmingham Iron Foundry, Derby, Ct.

## Devulcanizers.

Birmingham Iron Foundry, Derby, Ct.

Edred W. Clark, Hartford, Ct.

Excelsior Machine Wks., Akron, Ohio.

William R. Thropp, Trenton, N. J.

## Dies.

Excelsior Machine Wks., Akron, Ohio.

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Doubling Machines.

American Tool &amp; Machine Co., Boston.

## Drying Apparatus.

B. F. Sturtevant Co., Boston.

## Drying Machines.

Birmingham Iron Foundry, Derby, Ct.

Textile Finishing Machinery Co., Providence, R. I.

American Vacuum Drying Machine Co., New York.

## Dynamos.

B. F. Sturtevant &amp; Co., Boston.

## Embossing Calenders.

Textile Finishing Machinery Co., Providence, R. I.

## Electric Power Transmission.

W. B. Smith Whaley &amp; Co., Boston.

Mass.—Columbia, S. C.

## Engines.

B. F. Sturtevant Co., Boston.

William R. Thropp, Trenton, N. J.

## Engraving (Roll).

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Exhaust Fans and Heads.

B. F. Sturtevant Co., Boston.

## Factory Construction.

Herbert S. Kimball, Boston.

## Fans (Electric).

B. F. Sturtevant &amp; Co., Boston.

## Fans (Exhaust and Ventilating).

B. F. Sturtevant &amp; Co., Boston.

## Forges.

B. F. Sturtevant &amp; Co., Boston.

## Gas Exhausters.

B. F. Sturtevant &amp; Co., Boston.

## RUBBER MACHINERY.

## Gearing.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Generating Sets.

B. F. Sturtevant Co., Boston.

## Grinders.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Thos. F. Stevenson, New York.

William R. Thropp, Trenton, N. J.

## Hangers.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Hard Rubber Lathes.

A. Adamson, Akron, Ohio.

## Heating Apparatus.

B. F. Sturtevant Co., Boston.

## Hose Making Machines.

Birmingham Iron Foundry, Derby, Ct.

## Hose Wrapping Machines.

A. Adamson, Akron, Ohio.

Birmingham Iron Foundry, Derby, Ct.

## Hydraulic Accumulators.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Jar Ring Lathes.

A. Adamson, Akron, Ohio.

Birmingham Iron Foundry, Derby, Ct.

Excelsior Machine Wks., Akron, Ohio.

William R. Thropp, Trenton, N. J.

## Machinists' Tools.

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Matrixes.

Excelsior Machine Wks., Akron, Ohio.

## Mechanical Draft.

B. F. Sturtevant Co., Boston.

## Mixers.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Thos. F. Stevenson, New York.

William R. Thropp, Trenton, N. J.

## Motors (Electric).

B. F. Sturtevant Co., Boston.

## Moulds.

A. Adamson, Akron, Ohio.

Birmingham Iron Foundry, Derby, Ct.

Excelsior Machine Wks., Akron, Ohio.

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

Williams Foundry &amp; Machine Co., Akron, O.

## Pillow Blocks.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Post Hangers.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Power Transmission.

W. B. Smith Whaley &amp; Co., Boston.

## Presses (for Rubber Work).

A. Adamson, Akron, O.

Birmingham Iron Foundry, Derby, Ct.

Boomer &amp; Boschert Press Co., Syracuse, N. Y.

Edred W. Clark, Hartford, Ct.

Excelsior Machine Wks., Akron, Ohio.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Thos. F. Stevenson, New York.

William R. Thropp, Trenton, N. J.

Williams Foundry &amp; Machine Co., Akron, O.

## Pumps.

Birmingham Iron Foundry, Derby, Ct.

Boomer &amp; Boschert Press Co., Syracuse, N. Y.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Thos. F. Stevenson, New York.

## Racks for Boot and Shoe Cars.

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Reducing Valves.

Mason Regulator Co., Boston.

## Rollers.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Rollers (Hand).

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Second-Hand Machinery.

Phillip McGrory, Trenton, N. J.

Thos. F. Stevenson, New York.

## Shafting.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Special Rubber Machinery.

Wellman Sole Cutting Machine Co., Medford, Mass.

## Spreaders.

American Tool &amp; Machine Co., Boston.

Birmingham Iron Foundry, Derby, Ct.

## RUBBER MACHINERY.

## Steam Traps and Specialties.

Jenkins Bros., New York.

Mason Regulator Co., Boston.

B. F. Sturtevant Co., Boston.

## Steel Stamps.

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Stitchers (Hand).

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Thermometers.

Hohmann &amp; Maurer Mfg. Co., Rochester, N. Y.

Helios-Upton Co., Peabody, Mass.

## Tubing Machines.

A. Adamson, Akron, O.

Edred W. Clark, Hartford, Ct.

John Royle &amp; Sons, Paterson, N. J.

Williams Foundry &amp; Machine Co., Akron, O.

## Vacuum Drying Chambers.

American Vacuum Drying Machine Co., New York.

## Varnishing Machines.

Birmingham Iron Foundry, Derby, Ct.

## Ventilating Fans.

B. F. Sturtevant Co., Boston.

## Vulcanizers.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Thos. F. Stevenson, New York.

William R. Thropp, Trenton, N. J.

## Washers.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Thos. F. Stevenson, New York.

William R. Thropp, Trenton, N. J.

## Wrapping Machines.

A. Adamson, Akron, O.

Birmingham Iron Foundry, Derby, Ct.

Excelsior Machine Wks., Akron, Ohio.

FACTORY  
SUPPLIES

## Acid (Carbolic).

Barrett Mfg. Co., Philadelphia.

## Antimony, Sulphurets of.

## GOLDEN.

Actien-Ges. Georg Egestorff's Salzwerke, Linden, Germany.

Atlas Chemical Co., Newtonville, Mass.

## GOLDEN AND CRIMSON.

Joseph Cantor, New York.

Stamford (Conn.) Rubber Supply Co.

Type &amp; King, London, England.

## Balata.

George A. Alden &amp; Co., Boston.

## Baskets (Carrying).

Morris &amp; Co., Yardville, N. J.

## Benzol.

Barrett Mfg. Co., Philadelphia.

Samuel Cabot, Boston.

## Black Hypo.

Joseph Cantor, New York.

Type &amp; King, London, England.

## Boxes (Wood).

Henry H. Sheep &amp; Co., Philadelphia.

## Carbon Bisulphide.

George W. Speaight, New York.

## Chemicals.

Toch Bros., New York.

## Colors.

Joseph Cantor, New York.

Toch Bros., New York.

Type &amp; King, London, England.

## Crude Rubber.

George A. Alden &amp; Co., Boston.

Otto Meyer, Boston.

Rubber Trading Co., New York-Boston.

## Drills.

J. H. Lane &amp; Co., New York.

## Duck (Cotton).

J. H. Lane &amp; Co., New York.

Morris &amp; Co., Yardville, N. J.

## Fabrics.

Holden, Leonard &amp; Co., Boston.

## Fossil Flour.

Fossil Flour Co., New York.

## Gutta-Percha.

George A. Alden &amp; Co., Boston.

Rubber Trading Co., New York-Boston.

## FACTORY SUPPLIES.

## Hose Bands, Straps, and Menders.

Boston Woven Hose &amp; Rubber Co.

William Yerdon, Fort Plain, N. Y.

## Hose Brands.

Boston Woven Hose &amp; Rubber Co.

H. B. Sherman Mfg. Co., Battle Creek, Mich.

## Hose Pipes, Nozzles, and Couplings.

Boston Woven Hose &amp; Rubber Co.

Eureka Fire Hose Co., New York.

Revere Rubber Co., Boston.

## Infusorial Earth.

Stamford (Conn.) Rubber Supply Co.

## Lampblack.

Samuel Cabot, Boston.

## Lasts (Aluminum).

Metal Last &amp; Tree Co., Boston.

## Lawn-Hose Supporters.

C. J. Bailey &amp; Co., Boston.

## Lead—Blue.

Fischer Lead Co., Chicago, Ill.

## Lead—Sublimed White.

Fischer Lead Co., Chicago, Ill.

## Manufacturers' Supplies.

Rubber Trading Co., New York-Boston.

Stamford (Conn.) Rubber Supply Co.

## Naphtha.

Barrett Mfg. Co., Philadelphia.

## Oils.

Akron Commercial Co., Akron, O.

## Paris White and Whiting.

H. F. Taintor Mfg. Co., New York.

## Pitch.

E. B. Weed &amp; Co., Fayetteville, N. C.

## Reclaimed Rubber.

Bloomingdale (N. J.) Soft Rubber Co.

New Century Rubber Co., Philadelphia.

New Jersey Rubber Co., Lambertville, N. J.

Pequanoc Rubber Co., Butler, N. J.

Philadelphia Rubber Wks., Philadelphia.

Raymond Rubber Co., Titusville, N. J.

Jos. Stokes Rubber Co., Trenton, N. J.

U. S. Rubber Reclaiming Wks., N. Y.

## AGENTS AND DEALERS.

G. Brice, Paris, France.

W. C. Coleman, Boston, Mass.

Philip McGrory, Trenton, N. J.

H. P. Moorhouse, Paris, France.

Rubber Trading Co., New York-Boston.

Wm. Somerville's Sons, Liverpool, Eng.

## Rubber Waste.

Wm. H. Cummings &amp; Sons, New York.

W. C. Coleman, Boston, Mass.

J. H. Stedman &amp; Co., Inc., Boston.

United States Waste Rubber Co., Brockton, Mass.

## Scrap Rubber.

Bers &amp; Co., Philadelphia.



# THE REPUBLIC RUBBER CO.

MAIN OFFICE AND FACTORY  
YOUNGSTOWN, OHIO

PITTSBURG  
106 MARKET ST.

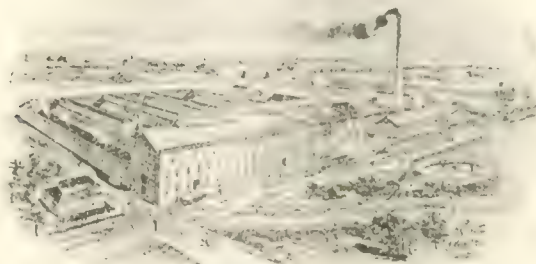
BRANCH STORE  
47 WARREN STREET  
NEW YORK

CHICAGO  
MARKET AND RANDOLPH STS.

MANUFACTURERS  
EXCLUSIVELY

HIGH GRADE  
MECHANICAL  
RUBBER GOODS

Our Policy is to Maintain Quality  
under all conditions



MOST MODERN  
MECHANICAL

RUBBER GOODS

FACTORY IN THE  
WORLD

Equipped Throughout with  
ELECTRICALLY OPERATED  
MACHINERY

PATENTEES AND SOLE MANUFACTURERS

## SEARCHLIGHT PACKING

## CROSS ARM Wire Insertion TUBULAR GASKET

Copper Joint

*Mention the India Rubber World when you write*

## Invest in Shares of La Zacualpa Rubber Plantation.



OUR TWELVE YEAR OLD TREES PRODUCING RUBBER.

Interest payable January and July from the actual production and sale of rubber from cultivated trees.

This PLANTATION is acknowledged to be the one company that has done something and actually solved the problem of rubber cultivation.

It is highly endorsed from every source and its shares afford an investment not to be overlooked.

LA ZACUALPA RUBBER PLANTATION,

No. 713 MARKET STREET,

SAN FRANCISCO, CALIFORNIA.

EASTERN REPRESENTATIVES:

BROOKS BROTHERS & COMPANY,

No. 35 WALL STREET,

NEW YORK.

*Mention the India Rubber World when you write.*



# REVERE RUBBER COMPANY.

Manufacturers of a  
HIGH CLASS of 

## MECHANICAL RUBBER GOODS.

### HOME OFFICE:

77 Bedford and 72 Kingston Streets,  
BOSTON, MASSACHUSETTS.

### BRANCHES:

NEW YORK, N. Y., 59 Reade Street.  
PITTSBURG, PA., 2-8 Wood Street  
CHICAGO, ILL., 168 Lake Street.  
MINNEAPOLIS, MINN., 210 Nicollet Avenue.  
NEW ORLEANS, LA., 410 Carondelet Street.  
SAN FRANCISCO, CAL., 527 Market Street.

### FACTORIES:

CHELSEA, MASSACHUSETTS.

# HIGH GRADE RUBBER GOODS

(MADE IN CANADA)

**BELTING  
PACKINGS  
VALVES  
VALVE SHEET  
TUBING  
and  
GASKETS**

**RUBBER HOSE**

FOR—

**WATER  
SUCTION  
STEAM  
AIR  
Fire Protection  
ACIDS  
BREWERS  
Pneumatic Tools**

**SATISFACTORY  
.. IN ..  
SERVICE**

**SUPERIOR  
.. IN ..  
QUALITY**



Sole Manufacturers of the celebrated "MALTESE CROSS" and "LION" Brands Rubbers.  
The best fitting, best wearing and most stylish rubber footwear on the market.

SPECIAL ATTENTION GIVEN TO EXPORT ORDERS—



## The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Mention The India Rubber World when you write.

Head Office Warerooms—45-49 Front St., W., TORONTO, CANADA.

= = THE = =

# GRANBY RUBBER CO.


HIGHEST GRADE

## RUBBER BOOTS, SHOES, AND CLOTHING.

### Factories: GRANBY, QUEBEC.

S. H. C. MINER, President,  
J. H. McKECHNIE, Gen'l Mgr.

Mention The India Rubber World when you write.



**JENKINS BROTHERS' VALVES.**

Perfectly tight under all pressures of steam, oils or acids.  
Warranted to give satisfaction under the worst conditions.

Received the **GOLD MEDAL** at the Pan-American Exposition.

Insist on having the genuine stamped with Trade Mark.

JENKINS BROTHERS, New York, Boston, Philadelphia, Chicago.

**PHILIP McGRORY,**  
TRENTON, N. J.

**Wholesale Dealer in SCRAP RUBBER.**

THE HIGHEST CASH PRICE PAID FOR NEW AND OLD, CURED AND UNCURED  
SCRAP RUBBER OF ALL KINDS.

**Second-Hand Rubber Mill Machinery Bought and Sold.**

Mention The India Rubber World when you write.

# GORHAM RUBBER COMPANY,

Manufacturers and Distributors for the Pacific Coast and the Orient

OF RUBBER GOODS OF EVERY DESCRIPTION.

MAIN OFFICE: **SAN FRANCISCO, CALIF.** BRANCH: **SEATTLE, WASHINGTON.**

Mention The India Rubber World when you write.

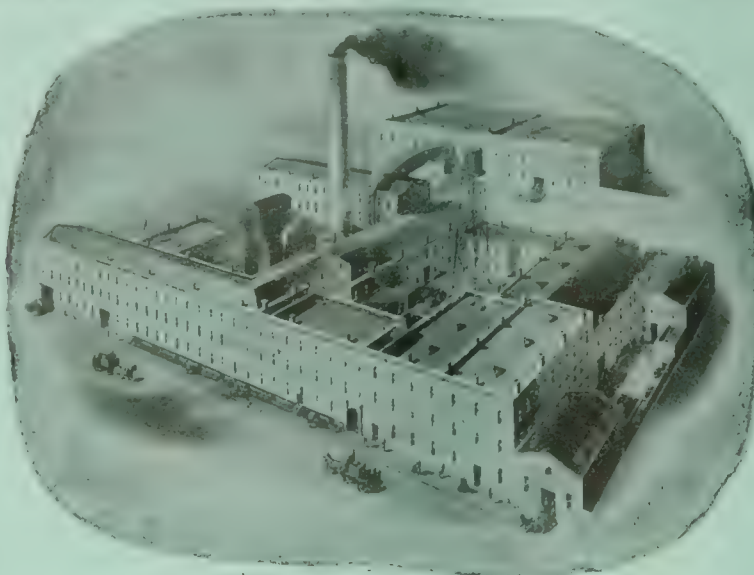


# THE GUTTA PERCHA & RUBBER MFG. CO.

ESTABLISHED 1855

MANUFACTURERS OF

**Rubber Belting, Packing, Hose, Mats, Matting**  
AND MECHANICAL RUBBER GOODS OF EVERY KIND.



## WAREROOMS:

Nos. 126-128 Duane St.  
NEW YORK.

## BRANCH STORES:

96-98 Lake St., CHICAGO.

71 Pearl St., BOSTON.

221 Chestnut St., PHILADELPHIA

30 & 32 Fremont St.,  
SAN FRANCISCO.

A. SPADONE, Pres.

HENRY SPADONE, Vice-Pres.

*Mention the India Rubber World when you write.*

MATTHEW HAWES, Treas.

## HOOD RUBBER CO.

## RUBBER

## BOOTS and SHOES

*Mention The India Rubber World when you write.*

1856 — FORTY-SEVEN YEARS — 1903

EXPERIENCE

# TYRIAN DRUGGISTS' RUBBER GOODS

OF ALL DESCRIPTIONS.

RUBBER MOULD WORK A SPECIALTY.

**TYER RUBBER COMPANY,**  
**Andover, Mass.**

*Mention The India Rubber World when you write.*

The BEST BUCKLES for ARCTICS  
ARE MADE BY  
THE WELD MFG. CO.,  
41 Lincoln Street, - - Boston.

"Cravenette"  
RAIN COATS

Must have this Circular  
Trade Mark stamped in  
inside of coat.



# INDIA RUBBER WORLD

CAOUTCHOUC  
HEVEA BRASILIENSIS  
DICHOPSS GUTTA  
GUTTA-PERCHA

Edited by HENRY C. PEARSON—Offices, No. 150 Nassau Street, NEW YORK.

Vol. XXVIII. No. 5.

AUGUST 1, 1903.

35 Cents a Copy.  
\$8.00 Per Year.

## THE ALDEN RUBBER CO., BARBERTON RUBBER WORKS, MANUFACTURERS OF RUBBER GOODS.

The  
MASTER KEY  
Rubber Tiling.

Noiseless,  
Non Conducting,  
Non Slipping.

The ideal floor for  
Offices, Banks, Vesti-  
bules, Elevators and  
especially for places  
where electrical cur-  
rents abound.

Beautiful Color Effects.  
Designs Furnished.



THIS TRADE MARK GUARANTEES FULL VALUE.

AKRON, OHIO and BARBERTON, OHIO, U.S.A.  
Akron Office, Arcade Block—Main Office and Works at Barberton

LONG DISTANCE TEL., AKRON EXCHANGE NO. 999.  
CABLE ADDRESS "ARCO AKRON."

BICYCLE,  
AUTOMOBILE  
AND  
VEHICLE  
TIRES,  
HOSE,  
PACKING,  
VALVES.  
MOLDED  
GOODS,  
FRUIT JAR  
RINGS.  
WHITE  
TUBING.

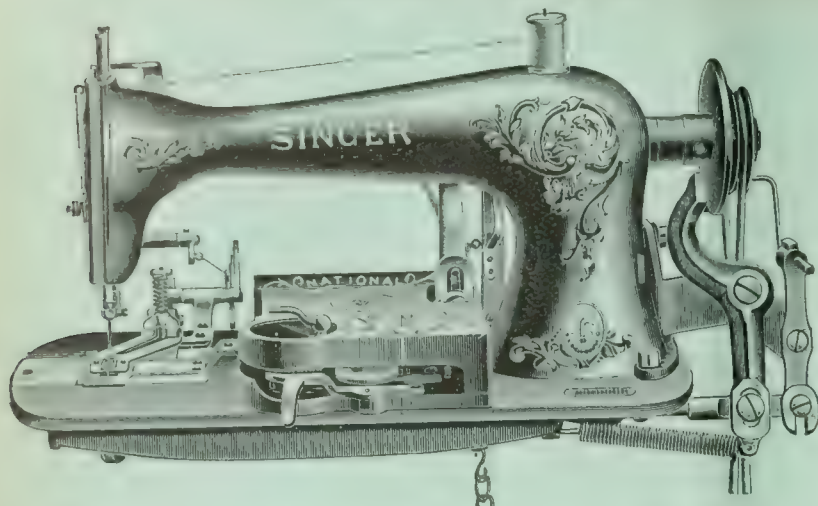
Mention the India Rubber World when you write

**LAMPBLACKS especially for RUBBER MANUFACTURE.**  
SAMUEL CABOT, BOSTON, MASS



# SINGER SEWING MACHINES

... FOR BUTTONHOLING RUBBER FABRICS. ...



Rapidly make button-holes up to  $1\frac{1}{2}$  inches long, having the appearance and strength of the best hand-work.

Have truly automatic action, use large bobbin and can be operated at high speed by any one capable of running a sewing machine.

MACHINES SHOWN IN PRACTICAL  
OPERATION AT

NEW YORK—Broadway and Prince Street.

BOSTON—128-132 Essex Street.

1210 Chestnut St., Philadelphia.

11 No. Charles St., Baltimore.

126 West Washington St., Indianapolis, Ind.

52 Water St., Cleveland.

260-262 Fifth Ave., Chicago.

115 West Third St., Cincinnati.

1124 Olive St., St. Louis.

251 River St., Troy, N. Y.

402 Jackson St., St. Paul, Minn.

1209 Grand Ave., Kansas City, Mo.

## THE SINGER MANUFACTURING CO.

Salesrooms in every City.

*Mention the India Rubber World when you write.*

## CONTINENTAL TYRES, CONTINENTAL MECHANICAL RUBBER GOODS.

CONTINENTAL CAOUTCHOUC & GUTTAPERCHA CO.,

Hanover, Germany.

*Mention The India Rubber World when you write.*



### For General Compounding

"M.R." makes a perfect union with rubber. Prevents blistering, and the harsher action of free Sulphur. Absolutely acid proof. Has been used regularly by Rubber Manufacturers for the past three years.

GEO. A. ALDEN & CO., Boston, Mass.

# Forsyth Combination Metal Insertion Packing



Patented April 11, 1899.

will satisfactorily withstand the heat of high pressure steam. It is a high grade rubber packing with one or more plies of pliable sheet metal insertion. A successful packing that satisfies where other packings fail.

## CAUTION.

As the exclusive manufacturers of sheet metal insertion rubber packing, under a patent issued April 11, 1899, to James Bennett Forsyth, we caution all parties against making, selling or using any rubber packing with sheet metal insertion that in any way infringes said patent.

**Our line of Packings for all purposes  
is most complete.** We solicit your  
inquiries...

**BELTING,  
HOSE of all kinds.  
GASKETS, VALVES,  
DECKLE STRAPS.**



The Trade Mark of Excellence.

**RUBBER COVERED  
ROLLERS.  
MATS, MATTING, TUBING,  
Etc.**

# BOSTON BELTING CO.

JAMES BENNETT FORSYTH, Genl. Mgr.

**Original Manufacturers of VULCANIZED RUBBER GOODS.**

Boston,	New York,	Buffalo,	Chicago,	St. Louis,	Milwaukee,	St. Paul,	Seattle,
Philadelphia,	Baltimore,	Atlanta,	Mobile,	New Orleans,	Memphis,	Cincinnati,	
Pittsburgh,	Detroit,	Cleveland,	Indianapolis,	Kansas City,	San Francisco,	Portland.	

*Mention The India Rubber World when you write.*





GOLD MEDAL AWARDED  
at  
PAN-AMERICAN EXPOSITION,  
1901.

## EUREKA FIRE HOSE CO.,

13 BARCLAY ST., NEW YORK.

MANUFACTURERS OF THE CELEBRATED BRANDS

“RED CROSS” (One Ply) “PARAGON” (Two Ply) “EUREKA” (Three Ply)

“U. S.” Brand Rubber Lined Cotton Fire Hose

Adopted as the Standard Factory Fire Hose by the Associated Factory Mutual Fire Insurance Companies, for Factory and Mill Fire Protection.

COTTON and LINEN HOSE of all grades, both plain and rubber-lined. All sizes.

These Goods are especially adapted for use in Woolen, Cotton, Silk, Print, Knit Goods and Carpet Mills, Dyeing and Bleaching establishments, Pulp and Paper Mills, Breweries and Distilleries, Sugar Refineries, Ice and Refrigerating Machinery, Chemical Works, Tanneries, etc. *Samples and full information given on application.*

## COTTON HOSE,

We Spin, Weave, and Line Our Own Goods.

## GARDEN HOSE,

New Lines—New Methods.

## BELTING and PACKING.

### Empire Rubber Mfg. Co.,

NEW YORK.

CHICAGO.

BOSTON.

ST. LOUIS, MO.

Factories: TRENTON, N. J.

*Mention the India Rubber World when you write.*

For HIGH GRADE  
Pneumatic Bicycle Tires  
and Solid Carriage Tires

Write to

**KOKOMO RUBBER CO.**

KOKOMO, INDIANA.

*Mention The India Rubber World when you write.*

## Lake Shore Rubber Co.

Manufacture Mechanical Rubber Goods,

HOSE, BELTING, PACKING, VALVES,  
GASKETS, ELECTRICAL TAPE, OIL  
WELL SUPPLIES, Etc.

WRITE FOR PRICES AND SAMPLES.

Office and Works, ERIE, PA.

*Mention The India Rubber World when you write.*



## HOSE FITTINGS EXCLUSIVELY

Our large and well equipped brass foundry and finishing department produces

**COUPLINGS - NOZZLES - REDUCERS - ETC.**

— FOR —

**FIRE - GARDEN - LEADING - SUCTION and STEAM HOSE**

A large stock at the factory and at our stores enables us to make  
prompt deliveries of goods as ordered

LET US QUOTE ON YOUR REQUIREMENTS

## BOSTON WOVEN HOSE & RUBBER CO.

Factories: CAMBRIDGE and PLYMOUTH Executive Offices: CAMBRIDGE

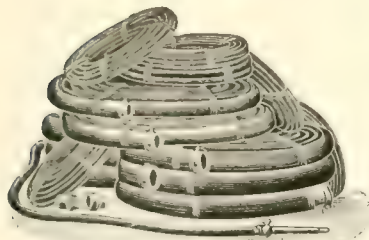
Branches: Boston, New York, Philadelphia, Buffalo, Cleveland, Chicago, St. Louis, San Francisco  
170 Summer St. 105 Beale St. 744 Drexel Bldg. 508 Morgan Bldg. 20 S. Water St. 185-187 Lake St. 610 Security Bldg. 11-16 Fremont St.

*Mention The India Rubber World when you write.*



"ALL GOODS BEARING OUR BRAND ARE FULLY GUARANTEED."

## HIGH CLASS RUBBER GOODS.



### NEW PLANT

The most improved machinery,  
Up-to-date methods coupled with  
experienced workmen and capable  
supervision enable us to meet  
any competitor and give us  
an advantage over many

## We Make

**Hose, Belting, Packing, Valves, Gaskets, Mats,  
Matting, Linen and Cotton Hose,**

and many specialties as well as they can be made when the ability to turn out first grade goods is  
united with the willingness to do so.



## Our "Nubian" Packing

is adapted for high or low pressure. It is  
guaranteed to stand higher temperature than  
any other packing, and will retain its strength and pliability under conditions that destroy other  
packings. Flat and Tubular Gaskets made from "Nubian" Stock

## Voorhees Rubber Manufacturing Co.

BRANCH STORE:

175-177 Lake St., Chicago.

*Mention The India Rubber World when you write.*

18-40 BOSTWICK AVENUE,  
JERSEY CITY, NEW JERSEY.



# Automobile and Fishing Garments

ARE VERY MUCH IN DEMAND

We make a variety of styles of Water=  
proof Clothing particularly adapted  
for outing purposes

## Hodgman Rubber Company

806-808 BROADWAY, Opp. Eleventh Street, NEW YORK

Factories: TUCKAHOE, N. Y., MT. VERNON, N. Y.

*Mention The India Rubber World when you write.*



**BEFORE YOU PLACE YOUR CONTRACT**

**....FOR....**

**G A R D E N   H O S E**

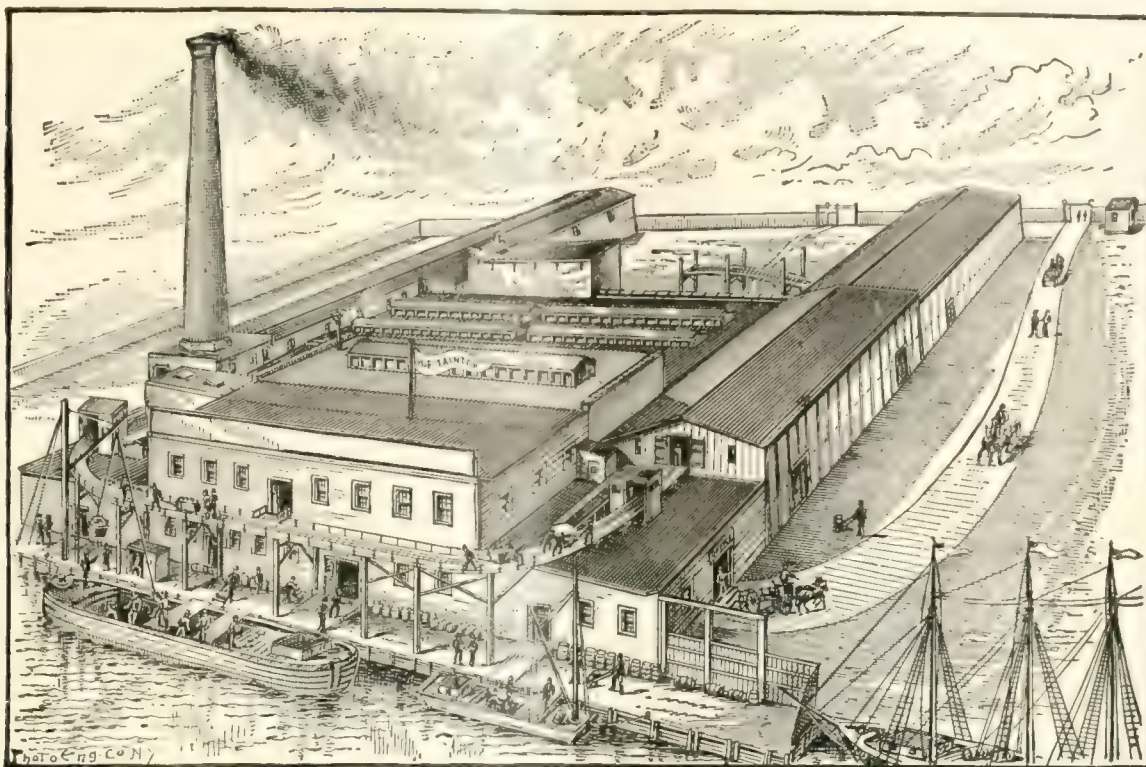
**WRITE US FOR SAMPLES AND PRICES.**

**TEN DISTINCT GRADES, EVERY ONE A WINNER.**

**CRESCENT BELTING & PACKING Co.**

**TRENTON, N. J.**

*Mention The India Rubber World when you write.*



## The H. F. Taintor Mfg. Co.

are the largest manufacturers of Whiting and English Cliffstone Paris White in this country.

All grades of Whiting prepared especially for use of Rubber Manufacturers, finely ground and bolted and *very* dry.

The "Westminster" brand of English Cliffstone Paris White is the finest made in the world, and is particularly suited to manufacturers of fine Rubber goods and specialties.

Samples can be had by mail.

Address

***No. 101 Beekman St.,  
New York City.***

*Mention The India Rubber World when you write.*



FACTORIES AT MATTEAWAN, DUTCHESS CO., N. Y.

# NEW YORK RUBBER COMPANY.

INCORPORATED 1851.

Manufacturers of

**BELTING,  
HOSE,  
PACKING,  
ETC.**

**OF SUPERIOR QUALITIES.**

**HIGH GRADE  
Lawn and Garden Hose  
A SPECIALTY.**

**HIGH GRADE  
Lawn and Garden Hose  
A SPECIALTY.**

WAREHOUSE AND OFFICE:

**84 AND 86 READE, COR. OF CHURCH STREET, NEW YORK.**

Address P. O. Box 1160.

*Mention The India Rubber World when you write.*

## BELTING



FOR  
Transmitting  
Elevating  
Conveying

## JAR RINGS WASHERS BANDS PACKING



FOR  
Steam  
Water  
Oil  
Acids  
Air, Etc.

## GRAIN DRILL TUBES MOLDED WORK CUSHION TIRES BABY CAB TIRES VALVES



## HOSE

FOR  
Steam  
Water  
Oil  
Acids  
Suction  
Air, Etc.

**THE WHITMAN & BARNES MFG. CO.**

Kansas City  
New York  
Chicago

RUBBER WORKS,

AKRON, OHIO

St. Catharines  
Cincinnati  
Syracuse

London

*Mention The India Rubber World when you write.*

It is Oil Proof,  
It is Acid Proof.



*It is perfection for a Steam Joint.*

*Try It.*

*You will have the proof.*



# NEW JERSEY CAR SPRING & RUBBER CO.

General Offices and Works, - - - Jersey City, N. J.  
 New York, - - - - - 10 Barclay St.  
 Cleveland, - - - - - 190 Seneca St.

CHICAGO, ILL.

Distributing Agents, W. D. Allen Mfg. Co.,  
 151 Lake St.

MANUFACTURERS OF

## High Grade Rubber Goods

"Our name and brand a guarantee of quality."

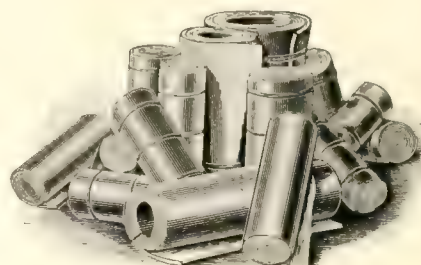
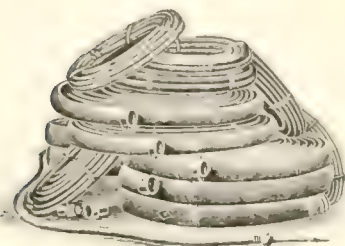
Air Brake Hose Rubber Belting  
 Steam Hose Steam Packing  
 Fire Hose Mats and Matting  
 Water Hose Valves, etc.

"Diamondine" Red Sheet Packing

"Hemisphere" Rubber Matting

Rubber Lined Cotton Fire Hose

Mechanical Rubber Goods for all purposes.



J. J. FIELDS, President.  
 J. J. FIELDS, JR., Vice Pres't.

GEO. B. DICKERSON, Sec'y.  
 TOWNSEND COCKS, Treasurer.

*Mention The India Rubber World when you write.*

ESTABLISHED 1859.

## THE LIVERPOOL RUBBER COMPANY, Ltd. LIVERPOOL, ENGLAND.

*The highest grade of Rubber Boots and Shoes, "Liver" and "Ideal" Canvas Shoes, etc., etc.*

*High grade Mechanical, Engineering and Mill Work, Railway Springs, Valves, Buffers, Sheets, Insertion, Rings, Bladders, Deckles, Printers' Blankets, Hose, Belting, Mats, Packing, etc., etc.*

*Cycle and Carriage Tires, "Lockfast" pneumatic, single tube, cushion and solid.*

*India Rubber Thread.*

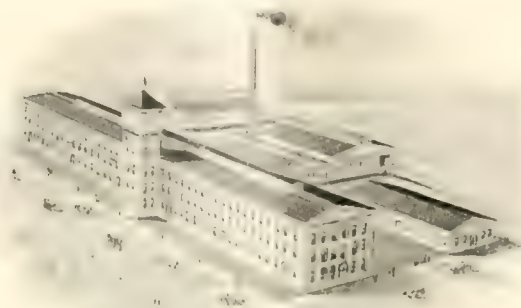


CHIEF OFFICE: 292 VAUXHALL RD., LIVERPOOL,  
 and at 34 Aldermanbury, London, E. C.,  
 20 Rue des Marais, Paris,  
 333 Kent St., Sydney, New South Wales.

Factories: Vauxhall Road, and Walton, Liverpool.

*Mention the India Rubber World when you write.*

# THE EUREKA RUBBER MFG. CO. OF TRENTON, NEW JERSEY.



Manufacturers of

**Rubber Carriage Drill and Duck, Cotton Rubber Lined Hose, and Mechanical Rubber Goods of Every Description.**

Factory strictly modern in design, with machinery of the latest and most approved description throughout, using only first class raw material, and producing nothing but reliable grades.

We solicit inquiries from the trade direct, or through our Branch Stores or Salesmen. We promise prompt attention to same.

FACTORY - - - TRENTON, N. J.  
On the main line Pennsylvania R. R.

Branch Stores: CHICAGO:  
248 Randolph Street.

NEW YORK:  
55 Warren Street.

BOSTON:  
276 Devonshire Street.

*Mention The India Rubber World when you write.*

## BELTING

## BELTING

## BELTING

# BELTING

FOR EVERY POSSIBLE USE

## COMBINATION RUBBER AND BELTING CO.

Main Office and Works, BLOOMFIELD, Essex Co., New Jersey, U. S. A.

SALESROOMS

NEW YORK:  
157 CEDAR ST.

PHILADELPHIA:  
43 N. SEVENTH ST.

CHICAGO:  
198 RANDOLPH ST.

*Mention The India Rubber World when you write.*



# THE MANHATTAN RUBBER MFG. CO.

CABLE ADDRESS  
MIALOGIA

18 VESEY STREET, NEW YORK.

7260 CORTLANDT  
TELEPHONES: 7261 CORTLANDT  
7262 CORTLANDT

BELTING  
HOSE  
PACKING  
TUBING  
MATTING  
ROLLS



GASKETS  
TILING  
MOULDED  
GOODS  
IN EVERY  
VARIETY

—MAKERS OF—

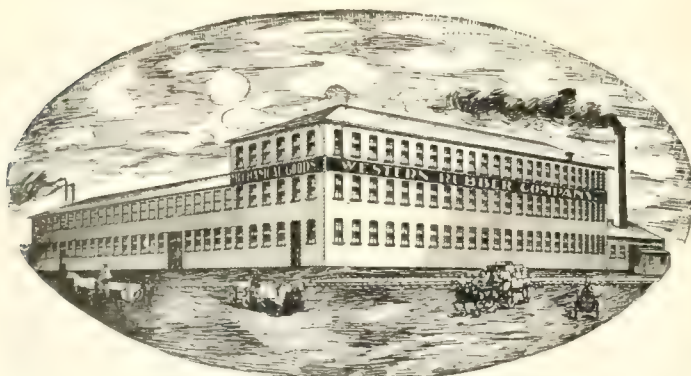
## Mechanical Rubber Goods.

Factories: PASSAIC, N. J., on D. L. & W. R. R.

*Mention The India Rubber World when you write.*

### Western Rubber Company,

GOSHEN, - - - INDIANA.



...Manufacturers of...

Tires, Inner Tubes,  
Splicing Compound,  
Packing,

Rubber Horse Shoe Pads,  
Rubber Heels,  
Matting, Mats,  
Patented Specialties,  
Mould Work,

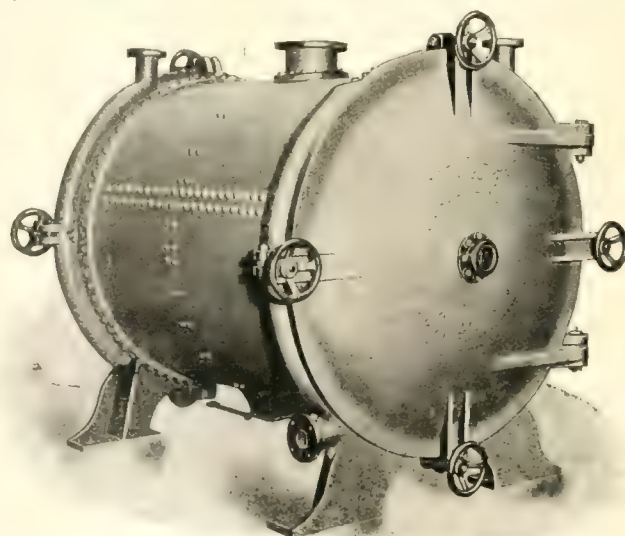
Plumbers' Supplies,  
Stamp Makers' Supplies  
Electrical Supplies,  
Sundries, Etc.

*Mention the India Rubber World when you write.*

### VACUUM DRYING MACHINES.

STATIONARY AND ROTARY.

Sheet and Shoddy Rubber and Chemicals can be Dried in a Few Hours at Low Temperature. No Oxidation, Burning, or Melting of the Material. Large Drying Capacity of Several Charges per Day. Exhaust Steam or Hot Water for Heating. No other Drying System so Economical in Time, Space, and Steam.



AMERICAN VACUUM DRYING MACHINE CO.,

Testing Station and Office: 120 LIBERTY ST., N. Y. CITY.

Our Laboratory Vacuum Apparatus is suitable for Practical Drying Tests

**WARNING: INFRINGEMENTS ON OUR PATENTS WILL BE PROSECUTED.**

*Mention The India Rubber World when you write.*

New York Philadelphia Trenton, N. J. Chicago St. Louis Pittsburgh

35 WARREN ST.

208 N. 4th ST.

MAIN OFFICE

21 So. CANAL ST. WAINRIGHT BLDG.

326 4th AVE.

FOR

# GARDEN HOSE

For the Season of 1903

—ADDRESS—

TRENTON RUBBER MFG. CO.

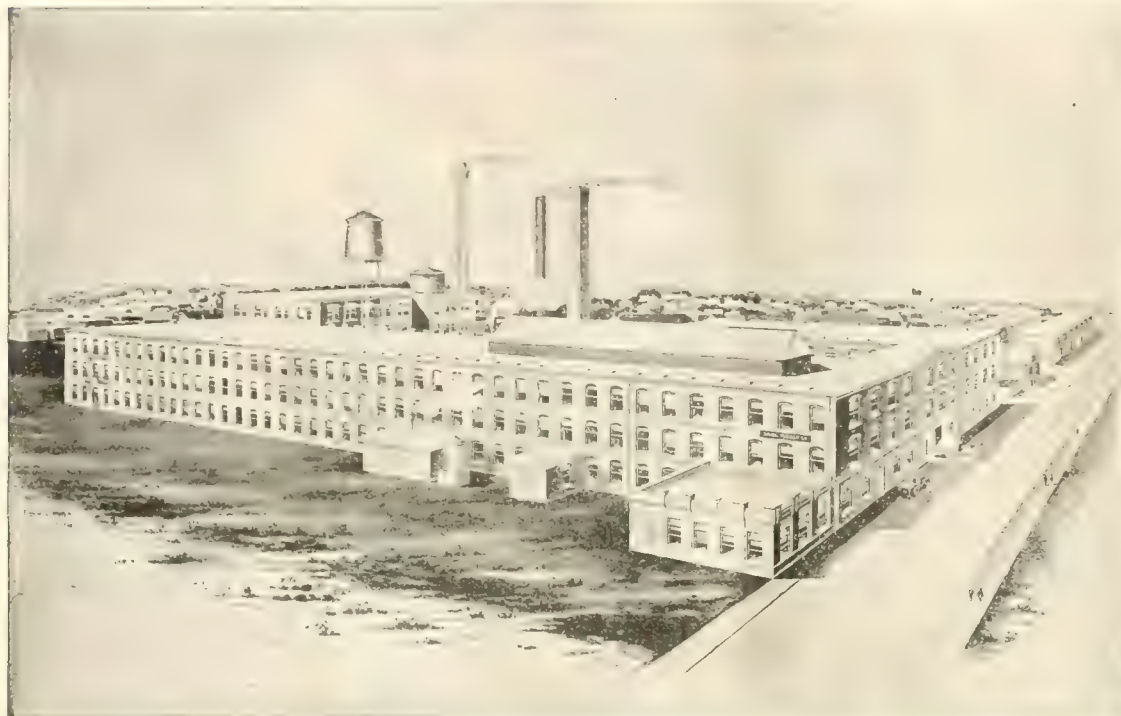
Trenton, N. J.

*We would be glad to send Samples and Quote.*

*Mention The India Rubber World when you write.*



# DAVOL RUBBER COMPANY



ESTABLISHED 1874

MANUFACTURERS OF

**FINE  
RUBBER  
GOODS**

IN

SOFT and HARD RUBBER



**PROVIDENCE,  
R. I., U. S. A.**

PLANT OF THE DAVOL RUBBER COMPANY

*Mention The India Rubber World when you write.*

## DAVIDSON'S

**R** Syringes, **U**  
**U** Atomizers, **N**  
**G** Nipples, **D**  
**G** Sheeting, **R**  
**I** Tubing, **I**  
**S** Urinals, **E**  
**T** Water Bottles, **S**  
**S** Golf Balls, **S**  
**S** AND  
**S** Special Goods To Order. **S**

## Davidson Rubber Co.,

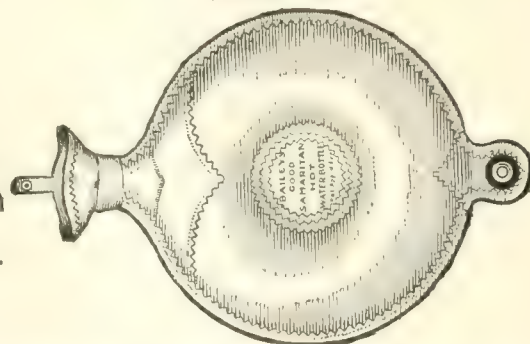
19 Milk Street, BOSTON, MASS., U. S. A.

*Mention The India Rubber World when you write.*

### Bailey's "GOOD SAMARITAN" Hot Water Bottle.

(TRADE MARK)

IT  
FITS  
EVERY  
SPOT.



SOFT  
AS A  
PIL-  
LOW.

MADE hollow disk in shape it adjusts itself to all parts of the body, and lays on it without holding or strapping. Being only about half the thickness of the ordinary water bottle, when filled, it is easy to place under the patient and comfortable to lie on.



For pain in the ear, teeth or face, the hollow disk gives to the affected parts hot air or steaming by placing in it a sponge wet with spirits or water.



Buttoning the two ends of the bottle together makes a perfect heater for the feet or to stand next to the body.

Only the best of material and workmanship are used in its construction, and every bottle is guaranteed.

5 inch diameter.....	Face Size, \$ 7.50 Doz.
8 inch diameter.....	10.00 "
10 inch diameter.....	12.00 "
11 inch diameter.....	15.00 "

DAVOL RUBBER Co., Providence, R. I. TYER RUBBER Co., Andover, Mass.  
 THE B. F. GOODRICH Co., Akron, O. THE SEAMLESS RUBBER Co., New Haven.  
 HODGMAN RUBBER Co., New York. HARDMAN RUBBER Co., Belleville, N. J.  
 IDEAL RUBBER Co., Brooklyn, N. Y. MECHANICAL RUBBER Co., Cleveland.  
**C. J. BAILEY & CO., Patentees, No. 22 Boylston Street, Boston.**

# AMERICAN HARD RUBBER CO.,

THE INDIA RUBBER COMB CO.  
THE BUTLER HARD RUBBER CO.  
THE GOODRICH HARD RUBBER CO.

9-13 MERCER STREET, NEW YORK, U.S.A.

MANUFACTURERS OF

## COMBS, SYRINGES, CROWN WATER BOTTLES, DRUGGISTS' & STATIONERS' SUNDRIES.

EVERY DESCRIPTION OF HARD RUBBER GOODS.

*Mention The India Rubber World when you write.*

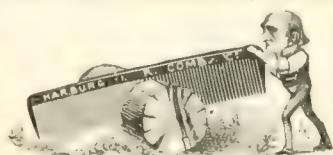
DR. H. TRAUN & SONS, Formerly

### Harburg Rubber Comb Co.

HARBURG AND HAMBURG, (GERMANY).

Manufacturers of  
all kinds of

**HARD  
RUBBER  
GOODS.**



SPECIALTY:

**HARD  
RUBBER  
COMBS.**

SOLE MAKERS OF THE CELEBRATED

Olive Doré, Helios, Reform and Sawing Man

BRANDS OF COMBS.

HEADQUARTERS FOR THE UNITED STATES:

**SCHRADER & EHLERS,**

335 BROADWAY, NEW YORK.

*Mention the India Rubber World when you write.*



### THE FAULTLESS RUBBER CO.

AKRON, OHIO, U. S. A.

MANUFACTURERS OF

## High Grade Seamless and Seamed Rubber Goods and Specialties.

CORRESPONDENCE SOLICITED.

*Mention The India Rubber World when you write.*

## SYRINGE BOXES

OF WHITE WOOD, BASS, OAK, ASH, &c  
FINE WORK. LOW PRICES PROMPT SHIPMENT.

*Estimates and Samples Furnished on Application.*

ALSO ANY OTHER KIND OF

## FANCY WOOD BOXES MADE TO ORDER

Extensive Facilities enable us to Guarantee Satisfaction.

### Henry H. Sheip Mfg. Co.

1702-10 RANDOLPH ST., - PHILADELPHIA, PA.

*Mention The India Rubber World when you write.*

MOLD WORK A SPECIALTY.



## SPONGES

We are the first in  
the United States to  
make Rubber  
Sponges. Call for  
samples and prices.

### CHICAGO TIRE & RUBBER CO.

329-331 West Kinzie Street, - - CHICAGO, ILL.

*Mention The India Rubber World when you write.*

## THE PURE GUM SPECIALTY CO.,

BARBERTON, OHIO.

MANUFACTURERS OF

TUBING (All kinds), PURE GUM GLOVES (Any weight).

STEAM CURED GLOVES, HOUSEHOLD GLOVES

(Any color), FINGER COTS (All kinds),

FACE MASKS, ICE BAGS, ICE

CAPS, SLEEVES, NIPPLES,

BEAUTY BRUSHES.

**Moulded Goods A Specialty.**

RUBBER SPECIALTIES OF ALL KINDS.

ALL GOODS GUARANTEED.

*Mention The India Rubber World when you write.*

## YATMAN RUBBER CO.,

### MOULDED SPECIALTIES

### IN SOFT RUBBER.

### ERASIVE RUBBER.

OFFICE AND FACTORY:

No. 608 Passaic Avenue,

HARRISON, N. J.

TELEPHONE:

523 HARRISON.

WRITE FOR ESTIMATES.

*Mention The India Rubber World when you write.*



In Every  
Essential  
Requirement

BANIGAN  
RUBBERS

Are Unexcelled



SEND YOUR ORDERS TO 

Edward R. Rice, Buffalo.

C. L. Weaver & Co., Boston.

Edward R. Rice, Chicago.

American Hand Sewed Co., Omaha.

Linthicum Rubber Co., Baltimore.

*Mention The India Rubber World when you write.*

# BOSTON



TRADE MARK

# RUBBERS

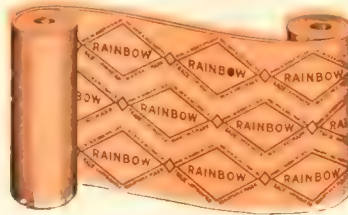
*Mention The India Rubber World when you write.*



# RAINBOW PACKING.

Makes a Steam Flange and Hot Water Joint Instantly.

Don't have to use wire and cloth  
to hold Rainbow.  
Can't blow it out.



Thousands of Imitators.

No Equal.

Will Hold Highest Pressure.

THE COLOR OF RAINBOW PACKING IS RED.

None Genuine without our Trade Mark, the word "Rainbow" in a Diamond in black in three rows of Diamonds extending throughout the entire length of each and every roll of Rainbow Packing.

## Peerless Rubber Fire Engine Hose.

We would call the attention of those desiring to purchase Fire Hose to the fact that we have in the New York Fire Department, Hose which has been in **constant use for over eight years and shows no sign of giving out.**

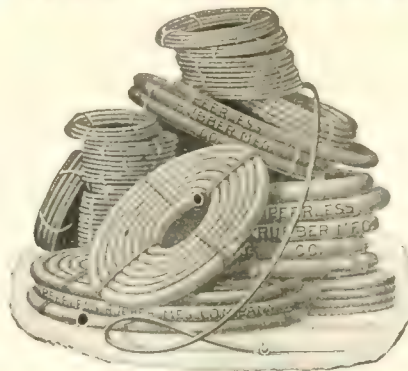
## Peerless Suction Hose.

Our Peerless Steel-Clad Suction Hose has become a general favorite among Firemen. It has been adopted as the standard by some of the largest City Fire Departments in the United States and foreign countries.  
We guarantee this hose in every respect, and can repair it when damaged.

## RUBBER HOSE

CONDUCTING,  
GARDEN,

Peerless,  
Lakeside,  
Red Lable,  
Crown,  
Knicker,  
Made any diameter.



ENGINE,  
HYDRANT.

Rainbow Ribbon,  
Sterling,  
Reliance,

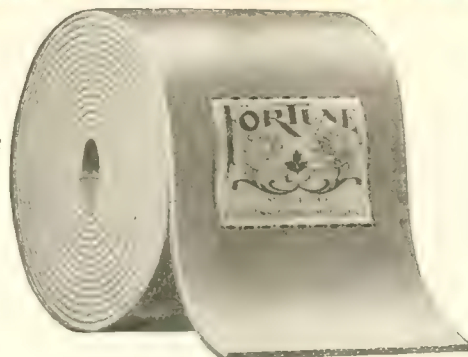
Made only in  $\frac{1}{2}$  and  
 $\frac{3}{4}$  inch.

## Fortune Seamless Rubber Belt.



Absolutely the finest and most durable  
Rubber Belt yet produced.

Every belt tested before leaving factory.



We have the most modern and extensive belt machinery in the world and guarantee satisfaction in every instance.



Copyrighted and Manufactured Exclusively by

THE PEERLESS RUBBER MANUFACTURING COMPANY,

16 WARREN STREET, NEW YORK.

16-24 Woodward Ave., Detroit, Mich. 202-210 S. Water St., Chicago, Ill. 17-23 Beale St., and 18-24 Main St., San Francisco, Cal.  
209-211 Magazine Street, New Orleans, La. 634 Smithfield Street, Pittsburg, Pa. 1221-1223 Union Avenue, Kansas City, Mo.

Mention The India Rubber World when you write.



Published on the 1st of each Month by

## THE INDIA RUBBER PUBLISHING CO.

No. 150 NASSAU ST., NEW YORK.

HENRY C. PEARSON,  
EDITOR.HAWTHORNE HILL,  
ASSOCIATE.

Vol. 28.

AUGUST 1, 1903.

No. 5.

SUBSCRIPTIONS: \$3.00 per year, \$1.75 for six months, postpaid, for the United States and Canada. Foreign countries, same price. Special Rates for Clubs of five, ten or more subscribers.

ADVERTISING: Rates will be made known on application.

DISCONTINUANCES: Yearly orders for subscriptions and advertising are regarded as permanent, and after the first twelve months they will be discontinued only at the request of the subscriber or advertiser. Bills are rendered promptly at the beginning of each period, and thereby our patrons have due notice of continuance.

COPYRIGHT, 1902, BY  
THE INDIA RUBBER PUBLISHING CO.

Entered at New York Post Office as mail matter of the second-class.

## TABLE OF CONTENTS.

	PAGE.
<b>Editorial:</b>	
Gutta-Percha in the Philippines.....	361
Stock Quotations and Business.....	362
A Case of Self Protection.....	362
<b>Rubber at the Osaka Exhibition..... J. K. L.</b>	363
<b>A German View of American Business.....</b>	363
<b>Rubber from British Guiana..... Dr. D. Morris</b>	364
[Followed by Notes on African Rubbers]	
<b>New Trade Publications.....</b>	364
<b>Rubber Planting on the Isthmus of Tehuantepec - IV. The Editor</b>	365
[Across the Isthmus. Plantation "San Francisco" At the Hotel El Globo, Salina Cruz. Mexican Justice. Night in a Railroad Camp. The "Pinoleo" and Other Insects. Journeying North.]	
With 14 Illustrations.	
<b>Rubber Planting Generally.....</b>	373
[Planting Rubber with Tea in Ceylon. New Tool for Tapping Rubber Trees. Exports from Ceylon. Company Notes]	
<b>Gutta-Percha in the Philippines.....</b>	374
<b>The India-Rubber Trade in Great Britain.....</b>	373
[The Kraharisch Failure. Gordon Bennett Cup Race. "Root Rubber." Oxidation of Rubber. Rubber Works Hygiene. The Cotton Situation. Hollow Ball Manufacture. Electrical Matters. New Use of Cellulose. News Notes.]	
<b>The Merit of Heavy Automobile Tires.....</b>	375
Detachable vs. Single Tube Tires.....	376
A Carriage Maker on Tires.....	376
<b>Obscure Causes of Factory Fires..... John L. Kilbon</b>	376
<b>A New "Kerite" Compound.....</b>	380
<b>New Goods and Specialties in Rubber (Illustrated)</b>	381
["Agnota" Seamless Rubber Gloves. Corrugated Rubber Bottle Brush. "Knickerbocker" India-Rubber Fountain Brush. The Goodrich Rubber Sponge. Canton Seamless Hot Water Bottle. The Rubber "Tom Cat." Failek's Patent Ring Guard. The "Granger" Rubber Boot. The Cleland Davis Golf Ball. Pneumatic Golf Ball. Power Wringers for Laundries. Bailey's "Petite" Complexion Brush. "Petite" Anti Colic Nipple. "Searchlight" Packing.]	
<b>Miscellaneous:</b>	
Train Loads of Sewing Machines (Illustrated).....	379
The Evolution of "Galdith".....	380
United States Rubber Goods Exports.....	380
New Patent Hose Dier (Illustrated).....	384
Drying Rubber in Vacuum.....	384
Power Punch for Rubber Nipples (Illustrated).....	384
The Adamson Disc Cutter (Illustrated).....	384
In the Wilds of Mexico.....	391
Rubber Notes from the Amazon..... L. G.	400
<b>Outing of the New England Rubber Club.....</b>	385
[With Four Illustrations.]	
<b>Recent Rubber Patents [American, British, German].....</b>	386
<b>The Textile Goods Market.....</b>	392
<b>News of the American Rubber Trade.....</b>	393
The Trade in Akron..... Our Correspondent	399
The Trade in Trenton..... Our Correspondent	390
<b>India-Rubber Interests in Europe.....</b>	401
<b>Review of the Crude Rubber Market.....</b>	402

## GUTTA-PERCHA IN THE PHILIPPINES.

WE print on another page some references to a recent report from the forestry administration of the Philippines, which further confirms the belief that considerable Gutta-percha exists in that archipelago. The best proof of its existence is the growing exportation of the product, from which the government derives a revenue, besides which it is pretty certain that further amounts are smuggled out of the country by the Chinese, who, as they have done elsewhere, practically control the trade. The forestry officials, who have been giving intelligent study to the subject, are fearful that, before the Gutta-percha producing section can be brought under complete control by the government, the cream of the supply will have been exhausted.

It would hardly be fair to charge the Philippine government with being dilatory in respect to taking up the subject of protecting the Gutta-percha interest. A new government, like a new business enterprise, requires time to develop—time to get on its feet, so to speak. Especially is this true of the government of a people to whom the governing power comes as a stranger, who must take time to become known and understood, as in the case of the United States in the Philippines. The latest published annual reports of the government at Manila bring its record down to the end of the third year from the signing of the treaty with Spain, and one may well be surprised, after a study of these reports, at the progress that has been made by the new administration. One point to be made is that the Gutta-percha region is in the portions of the archipelago most remote from the seat of government, and that the attention of the Governor and his supporters has been claimed by matters really of greater importance than protecting the Gutta-percha from theft by the Chinese.

But when matters have become so well regulated that no gutta is exported without paying duties, the problem of protecting the trees will still remain to be solved, and we think that, on this point, the recommendations of Dr. Worcester, the secretary of the interior for the Philippines, are worthy of attention. He would have the government establish a monopoly of Gutta-percha, all of that commodity to be confiscated that is not brought to the government stations, or is not collected according to regulations. This would check the indiscriminate destruction of the trees, and pave the way for improved methods of extraction.

It may be that any other method of extraction than by felling the trees cannot soon be enforced. Then let rules be adopted for getting all the gutta from the trees, instead of letting 90 per cent. of it go to waste, as is now the case. It ought to be a simple matter to get at all the Gutta-percha in the bark of a giant tree, whereas now none is secured beyond a few pounds from each tree resulting from "ringing" the trunk. We are satisfied that the authorities will work in this direction until ultimately the present wasteful methods are effectually prohibited, and hope that they may succeed before the greater number of the trees have been felled. It is interesting to note, by



the way, the confidence of the Philippine forestry bureau in the practicability of Gutta-percha culture, based upon the progress that has been made in this direction in recent years in Java.

### STOCK QUOTATIONS AND BUSINESS.

A RECENT article in these columns referred to the utility of the stock exchange in helping to fix values of corporation securities, and the proved necessity for such an institution. But it does not follow that the conditions of all business are to be gaged by the upward or downward tendency at any particular time of stock exchange quotations. During the past month prices of listed securities have been unusually low, but any inference from this fact alone, reflecting upon conditions of industry and business in the United States, would undoubtedly prove erroneous.

About the middle of the month a statement of the current quotations for fifty important listed stocks, compared with the highest quotations recorded in 1902 for the same securities, showed a decline of over \$1,000,000,000 in the value of their combined share capital. Nobody will say, however, that the intrinsic value of the properties represented had been decreased by this amount. Many of the securities referred to are still new and not thoroughly tested as to value, and both the high and the low "records" in any given case may have been accidental or at least made without reference to real values or earning capacity of the property. Certainly the total capital stock in no company on the list ever represented at any time so great a total investment as the high water mark on the quotation sheet, and at the moment of greatest depression the holders of no company's shares sold out completely. Again, while a "loss" of \$1,000,000,000 may seem enormous, the total face value of the fifty securities is very many times greater.

Opposed to this apparently bad indication, are the facts of the bountiful crops growing or harvested, the busy condition of factories, the profitable operation of transportation lines, the general employment of labor at fair wages, and the absence of important strikes—all favorable auspices, without any evidence that a change for the worse is near.

Then what is the utility of "Wall street" quotations, if they do not tally with plain indications of prosperity? Their immediate use—apart from telling each holder of a stock what its marketable value is at the moment—is to puncture inflated capitalizations. They speedily show, when millions in shares are issued against properties worth hundreds of thousands, something near the true values. They caution a man not to estimate his fortune by the par value of his stock certificates, and plan new investments accordingly, but to look at the intrinsic worth of what he owns. But for the stock exchange, by means of which investments become subjected to the closest scrutiny, many a man with inflated stocks hidden in his strong box would imagine himself rich when he had nothing, and opportunities for fraud would be vastly greater than now.

It should be added that the era of great industrial corporations is still too recent for even their promoters and managers always to be able to appraise their values rightly, and stock exchange prices register only the public's appreciation of them, which is not necessarily always just. The tendency, though, is toward more scientific accounting and a more intelligent estimation of capital values, and as this tendency is developed, fluctuations in share prices will be restricted to narrower limits. Meanwhile the owners of soundly conducted businesses are not greatly disturbed if at any given time the public may be less inclined than at another to buy an interest in them. And those businesses which are not conducted with a view to affecting prices in Wall street—the greater part by far of the whole—may be enjoying the utmost prosperity while the shares of the speculative concerns are having the greatest "slumps."

### A CASE OF SELF PROTECTION.

WHILE it is an acknowledged fact that the ordinary rubber compounds are matters of general knowledge, that is to expert manufacturers, it is not true that the mass of the workmen know them. Further than this, no good purpose would be served if they were possessed of such knowledge, for the possession of formulas without the general ability, experience, and discretion that their proper use requires, is a damage rather than a blessing. It has therefore come to pass, that the ordinary compound card reads something like the table that is shown in the margin.

X <sup>1</sup> —14	
Z <sup>2</sup> —20	
A—25	
C—10	
F—2	
R—1	

To the workman this means nothing, although to one who knows the general line of goods made and is possessed of samples of the stock produced it would be quite easy to arrive at the mixture. It is a curious fact, however, that the manufacturers are not trying to blind the eyes of those who are quick to see. On the contrary, to give them information is to make them more valuable. They are simply obliged to keep from unthinking men, knowledge, that in the first place, is none of their affair, and in the second place that once possessed of, renders the possessor unfit for his position. This may seem harsh, but many otherwise good workmen are drifting from mill to mill to-day trying to peddle compounds which they do not comprehend, and which are not their property anyhow. When the workman can throw away his book of formulas and out of his own knowledge combine rubber and compound so as to get any ordinary result, he ceases to be dangerous and for him the cipher code is unnecessary.

So well has this plan worked, by the way, that some manufacturers go even further and have steam gages with their own special dials, and thermometers that are neither a "F" nor "C," and from the manufacturer's standpoint it works exceedingly well. Many workers do not like this sort of misnaming and unusual recording, but after all the compounds and the heats are trade secrets that belong to the manufacturer. Why should he not guard them?

## RUBBER AT THE OSAKA EXHIBITION.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The fifth national industrial exhibition at Osaka, which opened on March 1, is not only more extensive than its predecessors, but more complete in many ways, and indicates a continual advancement in Japanese industries. Besides, the increasing number of foreign exhibits shows a growth of interest abroad in the markets of Japan.

Your correspondent has taken pains to look through the exhibition for products of the rubber industry, giving attention first to the industry in Japan. There are, as THE INDIA RUBBER WORLD has reported from time to time, several small rubber factories in this country, principally in or near Tokio, though only a few of the more important ones have made exhibits. It may be said, by the way, that most of the concerns are too young to have made much progress, which probably has restrained them from attempting to attract attention in comparison with more important establishments, and particularly the exhibitors from abroad.

The most extensive display of Japanese rubber products is that of the Meiji Rubber Manufacturing Co., in the manufacturers' building. This includes specimens of all their products, which include a wide range of mechanical goods, such as hose, belting, packing, valves, rollers, matting, tiling, truck tires, etc. It is an attractive display, and, considering the small limits of their business, as compared with the industry in other lands, a very creditable one.

In the same building is the display of the Mitado Rubber Co., also of Tokio. Their products consist of mechanical rubber goods and toys. The Oriental Rubber Co. and the Nippon Rubber Co. might have been expected, from the importance of their business, to make displays, but they failed to do so. In the Educational building, among the products of the Osaka Industrial School are some rubber water bags.

There is a special building allotted to Canada, in which the Canadian Rubber Co. of Montreal have installed an extensive display of mechanical rubber goods, druggists' and stationers' sundries, boots and shoes, and waterproof goods.

The Gorham Rubber Co. (San Francisco) have installed a display of goods of the same classes in the Foreign Sample building, comprising, so far as I have been able to see, about the only rubber goods from the United States.

The important Italian rubber firm of Pirelli & Co. (Milan) shows a wide variety of their products, including a diving suit. J. G. Ingram & Son, of the London India Rubber Works, display a collection of surgical and other India-rubber goods of their manufacture. There were other specimens of rubber goods, shown mainly by representatives of foreign machinery houses—as by Birch, Kirby & Co., Limited, agents for several British firms—but as thus shown such goods naturally are not prominent.

In another department, related to the rubber industry, the Japanese are better represented, that of electricity. Special mention must be made of the Andrews-George Co. and the F. W. Horn Co., of Yokohama, who have erected a special building for the display of electrical apparatus.

The machinery in the Machinery and Transportation buildings, and throughout the exhibition, is run by a dynamo made by the Sibaura machine works.

A collective exhibit of insulated wire, made by Japanese firms, includes about 70 different items, including insulation with India-rubber, Gutta-percha, paraffine, and weather proofing compounds. The Yokohama Insulated Wire Co. exhibit a number of large coils of their wires and cables. Many foreign

merchants exhibit specimens of American and European insulated wires, in connection with displays of electrical machinery.

From what I have seen, I am convinced that Japanese rubber manufacturers and Americans interested in this market for rubber belting cannot afford to overlook the competition of Dick's Balata belting and of cotton belting, which are rapidly coming into use.

Mr. C. K. Ogiwara has resigned his position with the Oriental Rubber Manufacturing Co., being succeeded by Mr. Yoshida, late of the Meiji Rubber Manufacturing Co.

Tokio, Japan, June 1, 1903.

J. S. L.

## A GERMAN VIEW OF AMERICAN BUSINESS.

FROM THE GUMMUTELLENGER (DRESDEN).

IN the German daily press of late there have been accounts of the business report of the United States Rubber Co. (the rubber shoe trust) for the year 1902-03, in which a favorable result of this enterprise is stated. There is represented to be a net revenue of \$1,384,000 against a capital of \$23,525,500, or about 5.7 per cent. The *New Yorker Handelszeitung* brings a like representation. But if we look closer into the business report of this trust enterprise, about the formation of which we published detailed articles last year, we shall find an altogether different state of things, and that the reports in the press are decidedly incorrect. The capital is not \$23,525,500, but \$47,191,000, or more than double, viz.: \$23,525,500 preferred and \$23,666,000 common stock. The return on this enormous capital at \$1,384,000 is not 5.7 per cent., therefore, but only about 2.9 per cent., and this must be considered as an extremely poor result.

If the trust has accomplished nothing but to bring an industry once highly lucrative to the verge of nothing, this can only be termed prodigality in the sense of national economy. It confirms the opinion of those who have taken a skeptical attitude toward such enterprises. Our German capital and our industries may take this result as a warning. Only 2.9 per cent. ! And in a year which the very business report exemplifies as one rarely favorable to the rubber shoe industry; in a year where the prices for raw Caoutchouc were so low that any rubber factory, under even fairly good management, should have come out with a much higher profit.

Of course, if one sees at what ruinous prices the United States Rubber Co. dispose of their goods in foreign countries, one must give up hope that the company can ever be in a position to improve upon their figures of profit. The prices which the United States Rubber Co. have made in the Orient, for instance, are simply unheard of; prices which simply mean loss. One can only conclude that the company want to throw their goods at any price on the European market, in order to keep busy under all circumstances the many factories bought up beyond the measure of reason, instead of simply closing some of them and reducing production.

As for prices, the business report, reproduced in the June number of THE INDIA RUBBER WORLD, says that they "have ranged about the same as in the previous year, when there prevailed the lowest prices for rubber boots and shoes (the cost of material being considered) ever known in the history of the trade." In proof of which it is stated that during the last two years five companies manufacturing rubber shoes have gone to ruin or withdrawn from business. This is correct, but it is not mentioned that it was this very United States Rubber Co. which, two years ago, quite unnecessarily and suddenly, lowered prices about 27.5 per cent., thus bringing them to such a level as to exclude any profit. This action was directed against the outside factories, on the idea that an oppor-



tune time had arrived to "freeze them out"—to starve them. This action was only partially successful, though it cost the trust about \$18,000,000—its whole working capital—and it is to-day a question from what it is going to pay the \$12,000,000 of "funding notes," in view of the relatively small liquid means which the report shows.

Deplorable again seems to be here the superficiality of our daily press, which gives space to these rose-colored reports without even taking the trouble to examine them. Thus propaganda is being made for trusts, which prove so ruinous to industry. If our people should be content with a total interest on capital of 29 per cent., apart from the fact that by such enterprises the capital is entirely hung in the air, it could in tranquility cease to work and there would be no need to form new industries. For even the simplest business, on the lowest scale of culture, would yield as good results.

### RUBBER FROM BRITISH GUIANA.

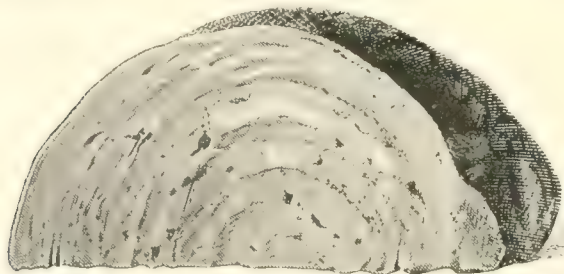
TO THE EDITOR OF THE INDIA RUBBER WORLD: I have the honor to forward a small sample of rubber prepared by the Indians on the Caramang, a tributary of the Mazaruni river, in British Guiana, communicated to this department by his Excellency the Governor.

I should esteem it a favour if you would be good enough to obtain a brief report and a valuation of the sample which, in some respects, resembles Colombian virgin rubber. It is derived from native trees and is so far the finest sample of India-rubber I have seen from the forest of British Guiana.

Thanking you in anticipation for your kindness in this matter, I am, Sir, your most obedient servant, D. MORRIS.

Commissioner of Agriculture for the West Indies.

Barbados, 15th June, 1903.



SECTION OF BALL OF BRITISH GUIANA RUBBER.

THIS rubber upon examination looks very much like many of the African sorts—for example, Mozambique ball, although the latter is stronger in fiber, and has a woody smell rather than the pungent odor noticed in this sample. It reminds one very much of the Caucho ball which was formerly in the New York market. It should be classed with such rubbers as Esmeralda sausage, but would probably shrink a little more on the moisture, but less as far as bark is concerned. It would probably shrink from 15 to 18 per cent. At the present market it is worth about 65 cents per pound. There is no doubt but what the rubber could be made stronger and cleaner by some different method of collection. The sample sent looks as if the rubber was coagulated in the cuts on the trees. If this is a fact, it does not show up very well. That is, it has not an extra strong fiber, and it develops tarry spots in the mass. It is, however, a good marketable rubber, and well worth gathering. We should be pleased to hear further particulars concerning it. An identification of the tree from which it was taken would be particularly valuable.—THE EDITOR.

### RUBBER FROM SOUTHEAST AFRICA.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Some friends of mine are interested in some ground on the east coast of Africa on which rubber trees grow, and are anxious to know the value of the product. I have taken the liberty to send you a small ball of the same and would feel greatly obliged if you could let me know the market value in New York. I am told that considerable quantities can be secured.

I have the honor to be, Sir, your obedient servant,

WM. D. GORDON,  
United States Consular Agent.

Johannesburg, Transvaal, March 17, 1903.

THIS is a fine sample of rubber of the Benguela type, which has been wound in a ball upon a spindle. Rubber like the sample, at the present state of the market, would bring from 60 to 65 cents per pound, and if, as our correspondent states, considerable quantities can be secured, it would find a ready sale.—THE EDITOR.

### MR. JOHN HOLT'S INTEREST IN RUBBER.

IN writing to us for information concerning "root rubber" species, Mr. John Holt, of the Liverpool shipping firm of John Holt & Co., Limited, states that if it can be found that such plants exist in the British African possessions, he would be interested in establishing machinery for the preparation of the product. Recently Mr. Holt's firm received from the French Congo specimens of root rubber, from a plant supposed by the sender to be *Landolphia Thollonii*, or *Clitandra gracilis*, a variety very similar. This shipment, by the way, was the basis of the reports lately telegraphed around the world of the discovery of a valuable new rubber plant. The existence of "root rubber" plants of several species has been reported in different parts of British West Africa though this type of rubber has been commercially exploited as yet only in Angola and the Lower Congo. It is possible, therefore, that the *Landolphia Thollonii*, which appears to be one of the valuable sorts, may be found in the region in which Mr. Holt is interested.

### NEW TRADE PUBLICATIONS.

THE CANTON RUBBER CO. (Canton, Ohio) issue an illustrated priced catalogue of their Fine Pará Seamless Rubber Goods, including gloves, face masks, finger cots, ice bags, nipples, and various articles such as traveling cases, nursery bags, sponge bags, surgeons' and domestic aprons, etc., in connection with each of which appears suitable descriptive matter. It is a good catalogue. [6" 7¼", 28 pages.]

EUREKA FIRE HOSE CO. (New York) issue a new catalogue of their fire hose products, each brand being adequately illustrated and described, in addition to which the book contains an account of the development of the company, since its establishment in 1875, and interior views, showing work in progress in the various departments. It is not only a very complete trade publication, but an attractive one, and is interesting as reading matter, beside. [5¼" × 6¾", 46 pages.]

The Chicago branch of the HOME RUBBER CO. (H. L. Davis, manager) issue a new booklet—Special Catalog No. 101—which they are sending out to customers and to the general trade on application. It is small, but unique and full of good points on mechanical rubber goods, and just what a buyer may appreciate as a handy pocket edition of lists and general information on this class of goods. [3½" × 6¼", 20 pages.]

FIRESTONE TIRE AND RUBBER CO. (Akron, Ohio) issue an illustrated booklet, "The Way to Apply Firestone Side-Wire Tires," giving full details on this subject. [3¼" × 6½", 12 pages.]

## RUBBER PLANTING ON THE ISTHMUS OF TEHUANTEPEC.

*As Seen by the Editor of "The India Rubber World."*

## FOURTH LETTER.

Across the Isthmus.—Plantation "San Francisco."—View of the "Ubero" and "La Crosse" Plantations.—The great Tehuantepec Plain.—At the El Globo.—Attacked by a Vampire.—The Zapoteco Women.—Dogs and Fleas.—Salina Cruz.—Back to Santa Lucrétia.—Mexican Justice.—Sleeping under Difficulties.—A Night at a Railroad Camp.—A Tapir Hunt.—The Persistent "Pinoleo."—Achtal again.—Journeying North.—Cattle Ranching.—Taxes.—Cordoba and Orizaba.—Mexico City.—A Look Backward.—The Cow Pea and Velvet Bean.

THE last letter of this series left us just boarding the train at Coatzacoalcos for the journey across the isthmus to the city of Tehuantepec. The journey did not take the whole of the month that has intervened, but it took long enough in all conscience, yet it was not without interest. Almost at once I struck up an acquaintance with a German named De Verts, whom I soon learned owned the plantation "San Francisco" up in the Dos Rios region. His plantings were of coffee and *Castilloa*, and of the latter he had some 60,000 trees two and one-half years old. These were planted  $7\frac{1}{2}$  feet apart one way, and 15 feet apart the other, with coffee between. His trees averaged about 8 inches in diameter. From his description the stand appeared to be an excellent one.

After his departure a friend promised to point out to me a man, who more than any other down that way, was making "easy money"—none other than a traveling dentist who finds his patients only among the natives. He goes from village to village doing a rushing business at great profit. It is said that many who have no trouble at all with their teeth have them filled in order to show the gold, and that they never weary of grinning, with that end in view. I did not see the dentist, for at this juncture we stopped at a station, where on a siding was a private car, on the platform of which stood Sir S. Weetman Pearson, the famous English constructor of tropical railroads. We all wanted a sight of him, and were rewarded by a brief view of a thick set, determined looking Britisher, who had an air of meaning business all the time. He was said to be discharging men right and left, and generally upsetting the policy of procrastination and inefficiency that had been more or less characteristic of the management in the past.

The National Tehuantepec railroad is without doubt of great present and prospective value, both to the planters and to the owners. Its trains, which run every other day, are always well patronized, and it is wonderful how those children of nature,

the Indians, enjoy crowding into the third class cars, and riding even a few miles. Many of the poorer ones save money for months, ride fifty or a hundred miles, and contentedly walk back. To them the trains are "flyers," and the cars palatial, but to the white man the many delays, particularly at stations, are very irritating. A resident of the country accounted for the long waits by stating that an engineer is paid \$2 an hour, and therefore the longer the run, the more he gets. He further intimated that if the train got on too fast, steam was allowed to get low, or some of the machinery suddenly needed repairs, for which a stop was necessary—but the narrator may have been yarning.

Shortly after noon we passed the handsome plantation house of the Boston Ubero company, and had a good view of the many acres of pineapples that they have under cultivation. We also had a view of the land of the Isthmus Rubber Co., a little later, and still further on was the La Crosse plantation company, which showed many acres planted to sugar cane, and considerable rubber.

Early in the afternoon we passed over the low mountainous ridge that separates the Atlantic side from the Pacific, and left behind the hot moist atmosphere that had become somewhat trying, and were in a climate bone dry, and seemingly much cooler. We next had a fine view of Rincon Antonio, the new railroad town that is rapidly assuming shape, and that will give to the workers in the shops a fine healthy climate instead of a fever ridden one.

Continuing our journey, we next came to the valley of the San Geronimo, healthy, cool, free from epidemics, and a little later to the vast Tehuantepec plain. Here are more than a million acres of rich land as level as a billiard table, covered with a sparse growth of chapparel, and awaiting only irrigation to turn it into a paradise. Nor is the water far off, for the mountains, which are in plain sight from



WILD RUBBER TREE ON COATZACOALCOS RIVER.

the train, furnish abundant supply, and every opportunity for huge reservoirs.

After a stop of twenty minutes at a small station to watch a man who was chopping wood—at least that was the only apparent reason—we reached our journey's end, arriving at the city of Tehuantepec two hours late. We had elected to stop at the El Globo Hotel while in the city, and in that made no mistake, for it is the best there. From the proprietor's own advertisement I have it that there are "Rooms facing on two different street. Comodios and well ventilated." Moreover, with the



true up-to date hotel spirit, he has the following card in each room:

The proprietors of this hotel are only responsible of lost of valuable objects or money when delivered to themselves by passengers.

He handled the English language well, and knew it, and had a profound pity for a physician nearby who put out the sign "Englische Espoken." This hotel man was well worth the journey to Mexico to meet. He is by birth a Frenchman, who came over with Maximilian, and, after that unfortunate ruler lost his head, elected never to return. He is very short, alert, and is the picture of vigorous old age. Occasionally he gets a bit overstimulated, and then puts on an immense pair of cavalry boots, and strides about the place, giving orders in a thunderous voice, and entertaining his guests with reminiscences of European wars that are full of thrill, dash, imagination, and doubtless some facts.

The hotel was a large rambling one story affair, with tiled floors and small cell like rooms opening out on an inner court, that contained both dining room and kitchen. Each bed room contained two folding canvas cots, each of which had one sheet, one red blanket, and one little striped pillow that was as hard as if stuffed with shot. There were also two chairs, a table, and a wash bowl and pitcher of agate ware. The one window opened to the floor, and to keep thieves out and guests in was latticed with half inch iron bars. It was luxury, however, when compared with the native huts, and we rested well, and had no adventures. To be sure I did have a queer experience the first night, when I lay for a while with one hand hanging down by the side of the bed, and on drawing it up *something* dropped off with a soft thud that had me wide awake in an instant. A light and a search revealed nothing and I came to the conclusion that it was one of the small vampire bats that are common in Mexico, and that alight so gently on man or animal that even if wide awake they do not know it.

So common are they, and so troublesome, that horses and mules are invariably kept under cover after dark, as these little blood-seekers rarely venture into houses.

The next morning it was quite cool, as a norther was blowing, and the thermometer registered only 95. On arising we

took our clothes in our arms, and, clad only in pajamas, walked down the sandy street two blocks to the baths, where we luxuriated for an hour or more. After coffee we visited the market, and saw the far famed Tehuantepec women in their very striking headdress, of which so much is said; but aside from its

becoming effect, no one seems to know much about it. I personally was interested to see how it was made, and so walked behind some of the dusky beauties as they marched off, and took a good long look. The headdress is simply a white dress with a wide flounce around the bottom. This flounce is starched stiff and put upon the head so that it stands up like a huge ruffle. The rest of the garment, sleeves and all, hang down the back. I almost wish, however, that I did not know

this, as the effect is not half as artistic since my eyes were opened.

There was really little of sight seeing in Tehuantepec; the market, the *pueblo* across the river, the ruins left by the earthquake four years before, were about all. Perhaps it was the climate, but it was more fun to sit on the brick sidewalk in front of the hotel and watch passers-by, dog fights, and predatory pigs than to chase around after information. Anyhow, there was no rubber grown there, and rubber was my errand to the Isthmus. Speaking of dogs, every Mexican and Indian in the hot country is a dog owner on a generous scale. Nor does he care what the breed, or the size, as long as the dog has four legs and a bark. They are, as a rule, a mangy lot, exceedingly lean, and many of them are really half coyote. All are plentifully supplied with fleas, which they generously divide with all with whom they come in contact.

We left Tehuantepec on the morning when the first case of smallpox was reported, not for that reason, but because our visit was ended. It is a curious coincidence, but our departure from Coatzacoalcas was marked by the reporting of their first fatal case of yellow fever.

In spite of the fact that the clock at the El

Globo had stopped, that the town clock in the plaza was slow, and that no one knew within half an hour just what time the morning train left, we succeeded in catching it, and arrived in Santa Lucretia in time for the midday meal. Major Elliott, whom we met on the way down, gave us a hearty greeting, but



STEAMER "DOS RIOS" ON THE COATZACOALCOS.



THATCHED VILLAGE ON THE "UBERO" PLANTATION.



"LA TRINIDAD." FIVE YEAR OLD CULTIVATED RUBBER.

could give no information regarding the construction train to take us back to Santa Rosa. There were, he said, rumors of an accident, and no train had been through for two days. Some said it would be a week before they would be running again. As it had set in to rain hard we possessed our souls in patience, and prepared to spend the rest of the day and the night with the Major. He readily made room for us, although the house was full, and then proceeded to give us an idea of Mexican justice. It seems that an Italian workman, on a prolonged drunk, had for some days been terrorizing Santa Lucretia. After he had chased natives to his heart's content, he fell into the habit of bombarding the Major's hotel with stones, and casting lurid reflections upon the character of all its inmates, from the proprietor down. These attacks were passed over with silent contempt, until one of the stones hit the Major's son, who lost his patience and, with promptness and despatch, thrashed the aggressor. Unfortunately in the doing of this he made the man's nose bleed, whereupon he was promptly hustled off to jail in a neighboring town, and it was only after three days of diplomatic and financial effort that he was released. The Italian was not arrested.

The Mexican laws, as will be seen from the foregoing, are radically different from those that are so often broken in "The land of the free and the home of the brave," but they are well fitted to the natives of that country, and act as a restraint to visitors, particularly those who feel superior to the dark skinned owners of the country. For example, if a foreigner gets in trouble with a native, even if the latter attack him first, he is apt to be treated very much as if he were the aggressor. I know of one case, and heard of several others, where Americans were attacked by drunken or angry *mozos* armed with *machetes*, and who, to save their lives, shot their assailants and were quickly arrested, and in spite of the fact that they proved that they acted only in self defense, remained in durance from six months to a year there before being released. This of course is not right, and yet, for the vigorous,—many times lawless—irresponsibles that crowd into a country that is just awakening, as Mexico is, some such law is

an absolute necessity, or the anemic native population would be crowded to the wall, or wiped out. There are many provoking things about the Mexican laws; for example—if a lumber team should run over and kill a native, the authorities in their anxiety for witnesses, and to place the responsibility, are apt to arrest not only the drivers of the team, but all the rest of the gang, and for a time look with suspicion on everybody connected with the lumber business.

The afternoon wore slowly away, and it rained harder every minute. At last came supper, and then bed. Here, as elsewhere, folding canvas cots were the only beds used, and while they are superior to an earthen floor, they do give one a crick in the back. Still we were thankful for our many mercies, and settled down to sleep. One by one the dim oil lamps were extinguished, and all was quiet except the monologue indulged in by one guest who was somewhat inebriated. The Major reasoned with him, begging him to go sleep, which at last he did; but the relief was only temporary, as he soon began again talking in his sleep. Just as, used to this, we were dozing, a sudden crash shook the house—a guest had fallen out of bed. The Major told him what he thought of such carelessness, and what he would do if it happened again, and once more quiet reigned. For a short time only all was still, and then clump, clump, clump along the passage between the cots came a heavy tread. Peep-

ing out from between the mosquito bars I saw a man clad only in heavy boots tramping up and down the room. The Major discovered him at the same time, and wrathfully inquired what he was about. "Just taking exercise," was the reply. Then really the Major let himself out. It was truly a rhetorical masterpiece that he delivered himself of, and the offender at last reluctantly agreed to put off his constitutional until the morrow, and went back to bed.

It was still raining when we awoke, and we sat around all

the forenoon waiting for the train, or for better weather. It was then that, looking at the passing *mozos*, I had a chance to see the native raincoats of cane and cocoa fiber that are the only mackintoshes the Indians use. They look far better and cleaner in a photograph than otherwise, and rubber manufacturers in



THE TEHUANTEPEC MARKET.





"LA TRINIDAD." FIVE YEAR OLD RUBBER AND COFFEE.

the States need not fear that northern markets will ever seriously seek them.

At 2 o'clock that afternoon, as it was raining only a little, we loaded our belongings on a *mozo*, and started to walk the track to the railroad camp, 12 kilometers away. We got there finally, boots covered with mud, damp, perspiring, and weary, and were welcomed to the engineer's quarters, that consisted of five box cars fitted up as dwellings, full of material comforts, and inhabited by several young and friendly Americans.

The head of this engineering household was Mr. F. M. Ames, chief engineer of the Vera Cruz and Pacific railway, who has for seventeen years been at work railroad building, all the time in the tropics. Indeed he headed the corps that surveyed the National Tehuantepec road, cutting his way through the densest sort of jungle, and establishing camps where now are thriving settlements. Mr. Ames knew the country, the people, and the animals, and we were soon launched into talk about the wild dwellers of the forest. Of the cat tribe, there are quite a number of large and active specimens. The leader of all these is the ounce, or as the natives call it, the "*tigre*," and next to him come a great variety of spotted cats, diminutive specimens of the jagua tribe. They never attack man, and when hunted, invariably take to a tree, although before doing so they often stop and finish a dog or two, which they are fully capable of doing. They are more or less of a nuisance, about plantations, as they have a great fondness for turkeys and chickens.

Many of the smaller mammals of the temperate zone are also very common, such as foxes, rabbits, skunks, squirrels, black and brown, and monkeys. This latter animal, I regret

to say, was conspicuously missing at the time of my visit, the story being that a year or two before they had taken yellow fever, and nearly all of them died.

It was during this most interesting chat that supper was announced, and we were soon luxuriating on ham and eggs, hot biscuits, and fine coffee that the Chinese cook knew how to prepare to perfection. I could not help remarking that the Chinaman was already considerably in evidence as a cook in the cities, at railway camps, and on plantations. Indeed, there are many who believe that the labor problem for the planter will be solved by the importation of a sufficient number of them. It is the general judgment, however, that while they may be taught to clean the rubber from weeds and vines, and to do a certain amount of cultivating, they will not be of much use either in forest clearing, or in tapping. In addition to this, the prices that the Chinese companies want for securing coolies is at the present time much too high to allow of their profitable use.

Mr. Ames, his two assistants, Messrs. Jones and Hawkins, my companion and I spent a very pleasant evening in what perhaps might be called the parlor car, and later adjourning to the sleeping car, forgot everything earthly until awakened in the early morning by the shrill whistling of a locomotive. This was the signal for breakfast, and an early start. In due time we boarded a flat car in front of the engine, and were off for Santa Rosa. We sat in a row on the extreme front of the car, ready to jump if it left the track. Along the route the worthy chief showed us where such slight mishaps had occurred, explaining that, until the coming of the dry season, and it was



"DEL CORTE." ADMINISTRATION BUILDING AND RUBBER TREES.

possible to put in ballast, such a condition of affairs had no remedy.

We reached Santa Rosa in due time, and as a souvenir of my visit, Mr. Ames gave me a *cedrilla* nut, a native remedy for all kinds of snake bites, as well as for coast fevers. I have since learned that the mahogany cutters, and other foresters of the tropics, put great faith in it, and rarely venture into the forest without it.

Leaving the railroad we struck into the new trail already mentioned, hid our luggage until a *mozo* could be sent for it, and started to walk to "La Buena Ventura." The rain had ceased, the sun was shining brightly, and every bird in the forest was singing a song of rejoicing. Not always in tune, however, for the genuine feathered warbler of the hot country is not at all musical. The *chachilatta* thinks it sings, but as a matter of fact it simply "chachillatters," and that word just describes the sound. A sort of wild hen is this bird, and one that is in constant hysterics.

After a walk of about fifteen minutes, we emerged from the forest and ascended to the higher ground where grows the rubber. To our regret we arrived too late to join in a tapir hunt that took place in that very orchard. The tapir is the largest wild animal on the isthmus, and although quite plentiful, is so shy that rarely seen. It is perfectly harmless, and its flesh is esteemed a delicacy by the natives. One of them by some chance wandered into the rubber, and the son of my host fired a charge of shot, knocking him over. He recovered in an instant, and rushed away, taking another charge with him.

We did not tarry to talk tapir, however, but hastened on, both of us anxious to get our mail. As I had received no letters since leaving the city of Mexico, that longing had a reasonable basis, but when I appreciated the difficulty in getting letters through, I did not wonder at the delay, but marvelled that any mail at all reached me. So we hastened on over the rubber covered hills and finally reached the ridge on which stands the house and on which too is grouped the marvelous collection of tropical plants and trees referred to in a previous letter. Many of these by the way were obtained through the courtesy of the officials in far distant British botanical stations, notably, Calcutta, Singapore, and stations on the west coast of Africa. Indeed Mexico owes to these officials and to Mr. Harvey's enterprise the introduction of the mangosteen, jack fruit, bel fruit, as well as the *Kickxia Africana* and the *Hevea Brasiliensis*.

We reached the plantation house at last and everyone welcomed us warmly. The tame macaw, the little green parro-

quette, Lora the parrot, and even Bola, the big yellow tomcat, vied with the dogs in an enthusiastic ovation. Things seemed to be about as we had left them, and except for the fact that my black shoes had gathered a fur of green mold, and one of them was occupied by an enormous spider, I was perfectly content. Speaking of spiders, there are many of them, but they are the least of the insect troubles. If let alone they are harmless and not much in evidence, but the *rodador*, the *pinoleo*, the *chaquista*!—they are looking for trouble. The *rodador* is like the black fly of the North American woods. It is in some places most abundant, and its bite raises an itching lump that lasts several days. After a little, however, one becomes inoculated with *rodador* virus, and the only result is a small black spot that scales off without any itching or burning. They trouble some newcomers exceedingly, but I found them only a slight discomfort, not important enough to take any special precaution to mitigate.

Of the insects that are most easily domesticated, and that attach themselves with instant affection to the passing traveler, I should name the *pinoleo*, the *conchudo*, and the *garrapata*. They are all related, and are of the tick family. The *pinoleo* has a habit of associating with himself several million others, each one the size of a pin point, and hanging on a leaf or twig over a trail where animals or men are accustomed to pass. When the branch is touched, they instantly catch on to whatever touches it, and proceed to distribute themselves over the body and seek for tender spots whereupon to feast. I had a most abundant and energetic collection of *pinoleos* on several occasions, but got rid of them without much trouble.

The *conchudo* is simply a *pinoleo* that has not been blotted out early in life, and who grows into a fairly sizeable tick. He does not burrow into the flesh, but simply hangs on, and grows fat off the animal of his adoption. The *garrapata* is the *pinoleo* grown to maturity, and is a good large able-bodied tick that fastens himself upon his victim, and is very reluctant to let go. Another little pest that troubles some people is the *chaquista*, a fly so minute that one can hardly see him, and that hides itself in the hair of the head, its bite being like the sting of an electric needle.

There are of course mosquitos, although personally I was troubled very little by them during the whole of my trip, and ordinary fleas are to be found in the towns and cities from one end of the country to the other. The insect that I most dreaded, however, and which was described to me by many of the old time residents, was the *moyaquil*. This is a grub which





"DEL CORTE." CORNER OF RUBBER ORCHARD AND ROAD.

burrows in the flesh, and which when approaching maturity is about an inch long. It is supposed to be hatched from the egg of a fly, some say a butterfly, and is very easily disposed of if one knows what it is. When once imbedded in the flesh it has the appearance of a blind boil, but under a magnifying glass the head of the creature can be seen just above the skin, and a little sticky substance, such as rubber sap, suffocates it, and it is easily extracted.

The next two days were set apart for more plantation visiting, but my good luck, as far as weather was concerned, suddenly fled. It rained so hard that traveling would have been torture, and visiting folly, so on the third day I turned my face towards the city of Mexico—a far cry, however, for first must come a long afternoon's tramp along the railroad track to Achoatal. We did it, reaching the town at dusk. Then followed the wait until 1 in the morning, when the train arrived. We waited on cots in Antonio's palatial shed, which we shared with *mozos*, dogs, pigs, mules, horses, and the "murderer." The last named was the only really interesting bit of scenery there. He appeared soon after the rest were asleep, and crouched by the side of the door of the next hut, his sullen face filled with hate, his hand toying with the hilt of a wicked looking knife. He wasn't after us, so we let him alone. At 12.30 we got up, took our traps, stumbled over a family of sleeping porkers that were lying in the passage between the huts, sidled down a narrow plank to the railroad track, squeezed in between a lot of *mozos* who, wrapped in blankets, covered the depot platform, and awaited the coming of the train. While we sat there one of the *mozos* roused up, and began to talk to my companion. After a time Mr. Harvey turned to me and said:

"Here is a most remarkable thing; this man was on his way to my plantation to get work, when some of the railroad men told him that I drove my laborers out in the field early in the morning, hitting them with the flat of the *machete*, that I fed them very poorly, and made them sleep in a fenced enclosure that had no roof over it, so he didn't dare come. That is the way they try to get our help for themselves."

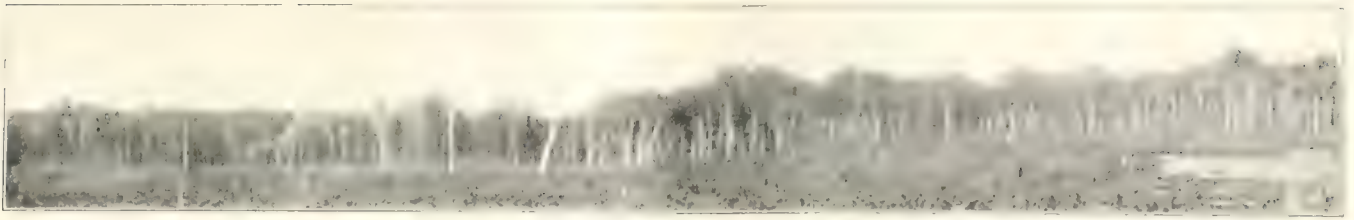
At length, after an interminable wait, the train arrived and we got aboard. The train boy had some canned beans and crackers from which we made a hearty meal, and then, stretching out on the seats, slept as best we could until we reached the breakfast station at Perez. The breakfast was fair, but the fruit we bought later was really what made life worth living. At every railway station women and children gathered under the car windows with fruits, flowers, native made candies, and the great variety of sweet cakes of which both Mexicans and Indians are very fond. I got a dozen oranges for ten cents, and they were simply delicious. A fruit that I had been very anxious to taste was the *sapodillo*, produced by the tree from which the Chicle comes, and, finding them on sale at last, I immediately invested. It is about the size of an apple, with a skin like

the potato, the pulp tasting like gelatine filled with brown sugar. I also sampled many other fruits. Of them all, as might be expected, the banana is the most common, and I observed several varieties that are never seen in the States. Some tiny yellow ones, a little larger than one's thumb have an extremely delicate flavor, and are deli-



"DEL CORTE." LABORERS' CAMP AND CLEARING.

cious. Of this family is a large plantain which is either fried or broiled, never being eaten raw, and which is extremely palatable. There are a great variety of other fruits which appear at certain seasons, such, for example, as the sour sop, a sort of



"DEL CORTE." EXTENSIVE VIEW OF RUBBER PLANTING.

pear with a prickly alligator skin hide, and which tastes like sour snow mixed with cotton batting.

During the forenoon we rode through a country largely given up to cattle ranches. Of domestic animals in Mexico, the cattle are perhaps the most valuable, and even with the poor strain of stock that is bred many large fortunes come to the owners of the ranches. Beside this, those who go into the cattle business have no trouble at all in getting help, as the native Mexican is a natural cowboy, and if he has but a pony and a big set of spurs, he is willing to work as he will at no other calling. Some of the more progressive ranchers are crossing their cattle with imported stock, and getting fine results. Most of the rubber planters keep a certain number of cattle for their own immediate wants, and for feeding the help, and occasionally are able to get a little fresh milk; but few of the cows are good milkers, and for native use, goat's milk is very extensively used.

One thing that I had a chance to do on this forenoon's journey was to look over the notes I had taken relative to the manner in which real estate, and particularly plantations, are taxed. This is not an interesting subject to the casual reader, so if he will kindly skip a few paragraphs, and allow others the privilege of reading, it will be esteemed a favor. It seems that there is an actual tax for the transfer of property, which is called *traslacion de domino*, assessed in the following manner: 2 per cent. is charged on the value stipulated in the deed, provided that value is equal to, or more than the official value, the latter being the value on record established at the last sale of the property, or if there has not been a recent sale, established by the valuation committee, called the *junta calificadora*. This 2 per cent. is the state tax, and on this 2 per cent. is charged 30 per cent. federal tax. If this transfer tax is not paid immediately after the execution of a title, a fine of 24 per cent. per annum on the amount of sale, or the official value of the property, is charged. Government registration of a title is not allowed unless this transfer tax has been paid. This transfer tax applies only on real estate, and is charged only when properties change hands.

Country real estate (*finca rustica*) is calculated as follows: 6 per cent. of the value is figured; upon this amount 5 per cent. is charged as a state tax for the year, and upon this same amount 30 per cent. is charged as a federal tax. These taxes are payable the first of each quarter or yearly in advance. Failure to pay during the first month of each quarter subjects one to a fine of  $6\frac{1}{4}$  per cent. for the first month,  $12\frac{1}{2}$  per cent. for the second month, and for the third month, or thereafterwards, 25 per cent. The only

products in the locality that I visited where taxes are charged are coffee, sugar, and tobacco, and upon these 4 cents per *are* is levied. This *are* is  $1/100$  part of a hectare, and a hectare is 2.471 acres. On this 4 per cent., 30 per cent. is charged as a federal tax. These taxes may also be paid quarterly or yearly, and if not paid during the first fifteen days of each month, a fine of 6 per cent. is charged, and if not paid during the first two months of each quarter or later, 25 per cent. is charged. It will be seen that these taxes are very light, and the government gives the planters the privilege of making their own manifests as to the area of the land under cultivation, and invariably accepts these in good faith.

That night we spent in Cordoba, and the next morning went early to Orizaba to recuperate. We both were in need of rest, and felt the effect of that fine dry climate almost at once. Orizaba, be it said, is a most civilized city, quite a resort for health seekers, and its guardians look with great disfavor upon the free and easy inhabitants of the country south. I was somewhat indignant at the looks cast upon me by the policeman, until I learned that it was against the law to wear a revolver, so I gladly unshipped mine, and stowed it away in my bag. Not that the city is really prudish. It runs a big public gambling house, which every dweller patronizes, and the profits from which go for municipal improvements.

I met many Americans there, among them Maxwell Riddle, who was shivering with *calentura*, and was hastening back to Tierra Blanca to sweat it out; John W. Byam, on his way to the "San Marcos" plantation, accompanied by Mr. Wood, his manager, who was just back from the Congo Free State; Mr. Cavanaugh, of Perez, and many others.

We luxuriated in Orizaba, attended the theater, saw the poorest centimatograph show on earth, learned from the natives that the American national hymn is "There's a hot time in the old town to-night," and thus improved both mind and body.

Finally I was rested, and Mr. Harvey had secured a lot of rare orchids from a learned old Mexican horticulturist there, and

further arranged for an exploring trip with him later, and the time had come to part. I tried hard to get him to visit New York with me, but with the true tropical dread of pneumonia and grippe, he sturdily refused. With a simple handshake we parted, but I wish he could have seen into my heart, and read there the gratitude that I felt, and how I appreciated the hospitality and consideration that he had shown to the tenderfoot who dropped in so suddenly upon him, rode his best horse, stole the affections of his parrot, and wore a hole in his favorite canvas chair.



"DEL CORTE." ROAD THROUGH RUBBER



On my return to the city of Mexico almost the first people that I met were Messrs. Warren and William Fish, Mr. Charles E. Sieler, Mr. S. D. Dorman, and Dr. W. S. Cockrell, all of whom have interests down in the Trinidad river district. I had met all of the gentlemen before, with the exception of the last named, and as he has been interested in rubber cultivation for nine years, I was glad to get an expression of opinion from him. He is a very earnest advocate of close planting. I believe he laid it down as a rule that the distances between the trees should be 6 feet and 6 inches. He has also gone into the subject of smothering the grass by the use of the cow pea, and strongly recommends the whippoorwill variety. He also said that his own observations proved that when the *Castilloa* was planted in a soil that consisted of a thin layer of loam over gravel, the trees did very well for three or four years, and after that seemed not only to stop growing, but that they produced very little latex.

His remarks remind me that in transferring my notes I left out my visit to "Filisola," a plantation that is not only an acknowledged failure, but that is practically abandoned. As the record of failure is often of more value than is the story of any number of successes, I am going to add it right here.

It was hot—awfully hot—as we climbed up the hillside to the rubber trees. On the way we walked in single file, constantly thrashing our leggings with switches to dislodge the clinging *pinoleos*. On the rolling ground above the landing we found a stand of trees, said to be 7000 in number, planted about twelve feet apart. Most of them were in the sun, but quite a lot were in among banana trees, and had good shade. Those in the sun were knee deep in grass, which was not of one year's growth, but showed a permanent sod. Those in the shade were free from grass. All of the trees, however, looked aged, not in size, but from the wrinkled condition of the bark, and the thin gray lichen that covered it. Yet those trees were but seven years old. They yielded some latex, but the most optimistic seller of rubber planting stock, had he seen them, would not dare predict that they would ever grow another foot. They looked matured, finished, discouraged, and a physical examination of the soil explained it. A thin leaf mold, then sandy clay with a trace of iron, then clay, and the

whole as dry as a smoked herring was what it showed. A variety of opinions were put forward as to the cause of the failure of this venture—mismanagement, poor soil, bad seed, grass, etc.—but to my mind the soil told the whole story.

Since my return to the United States, I have so many inquiries concerning the cow pea that I want to add a word concerning it. The botanical name of the ordinary variety is the *Vigna kantaing*. It is one of the well known leguminous plants of the southern states, grown partly for fodder and partly for hay. It makes the land richer because it returns to it so much of the mineral matter taken from the soil, and in addition much nitrogen taken from the air. There are a number of varieties used through the southern states, such as the "clay," the "unknown," and the "whippoorwill." The advantages of the cow pea are, it is a nitrogen gatherer; it shades the soil in summer,

leaving it friable and loose; it has a large root development; is adapted to almost any sort of soil; stands heat and sunshine well; and if sown thickly, will by its rapid growth and shade effectually smother all weeds, thus serving as a cleansing crop.

There is another plant which rubber planters might well look into, and that is the velvet bean,—the *Mucuna pruriens* (var. *utilis*). This plant comes originally I think, from Tampa, Florida, and no doubt the Florida experiment station could tell all about it. It is

said to have even a more luxurious growth than the cow pea, and produces a great amount of vine, and a large yield of seeds. It covers the ground with so heavy a vine that it is reported to have killed temporarily even the cocoa and Johnson grasses.

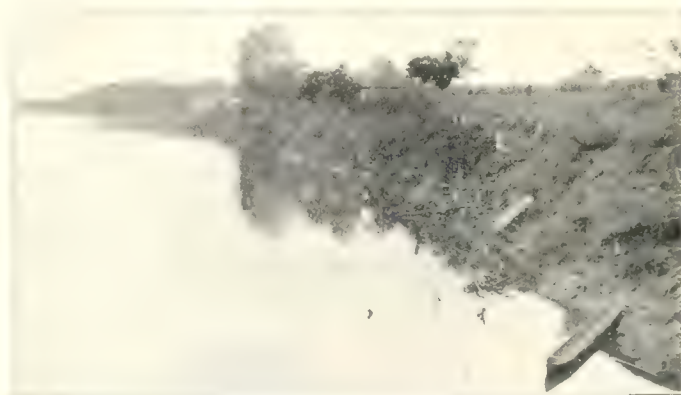
When one is in a foreign country, and almost ready to start for home, and a bit homesick at that, there comes a moment when all deterrents are brushed aside, and one bolts. I had planned several days sightseeing, and a stop off on the way, but instead I bolted. I met all sorts of nice chaps on the return journey, yet it was a long week that elapsed ere I sighted the skyscrapers of New York. Now that I am here, I wish somewhat that I had stayed a trifle longer, and I find myself yearning again for the open air life, the strange experiences, and the glimpses of nature, luxuriant, triumphant. Will this wishful attitude draw me back there next winter—I wonder.



TREES ON "FILISOLA."  
[Photo Copyright by C. B. Waite.]



"FILISOLA" IN ITS PALMY DAYS.  
[Photo Copyright by C. B. Waite.]



"FILISOLA" WATER FRONT AT PRESENT.  
[Photo Copyright by C. B. Waite.]

## RUBBER PLANTING GENERALLY.

## PLANTING RUBBER WITH TEA IN CEYLON.

THESE pages have recorded from time to time the progress in the planting of rubber in connection with coffee in Ceylon and the Straits Settlements, or the replacing of coffee with rubber, on account of the declining profits of coffee culture, and the feeling of the planters that it is better not to have "all of one's eggs in one basket." Of late a similar attitude in regard to rubber has been shown by the tea planters, whose interests in these colonies are even more important than the coffee interest. At the fifteenth annual meeting (June 15) of the Ceylon Association in London—maintained for the promotion of the sale of the Ceylon product—the tea situation in that colony was reviewed at length by Mr. H. K. Rutherford, who has sent us a copy of his remarks. In spite of the energetic efforts made to promote the sale of Ceylon tea [\$273,234.86 was spent for this purpose in America alone in 1902 by the Ceylon planters] the lower price at which Chinese tea can be bought gives the latter an advantage, even in British markets, without regard to any question of quality. The production of Ceylon tea has increased rapidly, while the prices obtained have declined, and the prospect for extending the consumption does not now seem bright. After referring to these points, Mr. Rutherford said:

While I am on the subject of supply and demand, I would like to bring to your notice another factor, a factor which I do not think has been taken into account, but which I believe will be a most important factor in the near future in the Ceylon tea enterprise. As you are aware, during the last three years the tea proprietors of the low country have been certainly making no profit, if they have not been working at a loss. On that account, as you will remember in the days of coffee, when they turned their attention to cinchona, they are now turning their attention to planting these tea estates with rubber. I was astonished to find it stated in the administrative report of the Kegalla district that no less than 4000 acres of rubber had been interplanted among the tea in that district. That is only one district, and if we consider what is being done in other districts, I would not like to say how much rubber has been planted, but I would not be at all astonished to learn that from 10,000 to 15,000 acres of low country estates have been interplanted with rubber. In the Kelani valley, Kalutara, and minor low country districts there are 60,000 acres of tea, planted in land all more or less suitable for the cultivation of Pará rubber, and producing 25,000,000 pounds of [black] tea. It becomes a question that is worthy of consideration as to what is going to happen, for if we take also into consideration the possibility of green tea being a permanent production, even if it does not increase beyond the 12,000,000 pounds now produced, we are face to face with the fact that if this rubber succeeds better than tea the whole of that 25,000,000 pounds may in time vanish altogether from the black tea output.

Mr. Rutherford was elected president of the Ceylon Association for the ensuing year. He is also a director in The Ceylon Tea Plantations Co., Limited, one of the largest planting enterprises in the colony. The extent of their operations is shown by the fact that they now have invested £248,460 [= \$1,209,129.49] of capital, the amount having been increased several times since 1887, when the amount stood at £75,000. During sixteen years the net profits have aggregated £587,598 5s. 12d. [= \$2,859,548.70], and after paying liberal dividends, and writing off for depreciation, a reserve fund of £100,000 has been accumulated. Part of this has been invested satisfactorily in planting cocoanuts, and now the planting of rubber has been introduced on the estates. These details, by the way are derived from recent annual reports of the company. In addition,

Mr. Rutherford writes to the Editor of THE INDIA RUBBER WORLD:

My company, The Ceylon Tea Plantations Co., Limited, have planted up about 2000 acres of their low country tea estates with Pará rubber. The work was started in 1887 and completed this year. The rubbers are interplanted throughout the tea and thriving well. - - - I am also interested personally in the cultivation of rubber in the Klang district [state of Selangor] of the Straits Settlements, and in that quarter of the world the product promises great things.

## BATAVIA COMPANY.

Plantation "Batavia" near San Francisco, Cal., U. S. A. State of Oaxaca, Mexico. Office: Milwaukee, Wisconsin.

INCORPORATED March 12, 1903, under Wisconsin laws. Own 10,000 acres in the region above referred to, about 75 miles southeast of Port Alvarado, on the gulf, and conveniently reached by rail. When acquired by the company there were 400 acres under cultivation, mainly in sugarcane and coffee, with 20,000 rubber trees two and three years old. Six thousand shares have been issued, for each of which when issued, one acre is to be planted and brought to a productive stage, while the shareholders have an interest in the reserve acreage, however that may be utilized or disposed of. These shares are offered at \$300 each, on the instalment plan if desired. The company purpose planting rubber extensively, as well as other crops. The company is composed of substantial business men of Milwaukee and elsewhere. The plantation was purchased from Alfredo Oest, and its development was begun by his brother, Cecilio Oest before the latter became identified with the Isthmus Plantation Co. Ceylon E. Lyman is president; Charles W. Morris, vice president; Vernon T. Wakefield, secretary; H. J. Paine, treasurer. C. M. Kendall, who is general agent, was connected in a similar capacity for some years with the successful Isthmus Plantation Association of Mexico, also established at Milwaukee.

## NEW TOOL FOR TAPPING RUBBER TREES.

A DEVICE for grooving or tapping India-rubber trees is the subject of a United States patent [No. 730,299] granted to Fayette S. Robinson, of Boston. It has been designed for use particularly on plantations of *Castilloa elastica*. Briefly described, the device comprises a tongs-like structure having jaws to embrace or partially embrace a tree, and an adjustably supported knife adapted to cut the groove in the tree. When the device is in position, the movement thereof up or down the tree, or around it, causes the knife to cut the proper channel in the bark. The construction of the tool permits the jaws to widen as they are drawn downward, to allow for the increasing diameter of the trunk. A vertical groove may be cut, or a horizontal groove, or a spiral groove around the tree, as desired. While it is supposed that a single grooving knife will be used preferably, the plan of the invention permits additional knives to be inserted. The patent has been assigned to Ferdinand E. Borges, secretary of the Consolidated Ubero Plantations Co. (Boston).

## LA ZACUALPA RUBBER PLANTATION CO.

THE San Francisco journal, *The Mining and Engineering Review*, in answering an inquiry in relation to rubber planting enterprises, quotes from a letter by Mr. O. F. Cook, of the national department of agriculture, who says: "We visited 'La Zacualpa' last year and saw rubber produced from planted trees. A report on the results of our studies is in press." A



representative of the *Review*, that journal further states, visited the offices of G. A. Moore & Co., commission merchants, No. 208 California street, San Francisco, whose books showed that during November and December, 1902, they had received 60 bales of rubber from La Zacualpa Rubber Plantation Co., Tapachula, Mexico, invoiced at \$6000 (Mexican).

#### EXPORTS OF CULTIVATED RUBBER FROM CEYLON.

THE official statement can now be brought down to June 1 last, with the following result:

In 1901.....	7,392 pounds.
In 1902.....	21,168 "
January 1 to June 1, 1903.....	19,461 "

Continued at the same rate, the exports for the current year should reach about 46,000 pounds.

#### RUBBER PLANTING COMPANY PUBLICATIONS.

THE Isthmus Plantation Association of Mexico, Milwaukee, Wisconsin. =Inspector's Report, 1903.

Indianapolis Ubero Plantation Co., Indianapolis, Indiana. =Fifth Annual Report [by inspector chosen by the stockholders, 1903]

The Tehuantepec Rubber Culture Co., New York. = [Annual Inspection Report, 1903, by Hon. James E. Southard, a member of Congress from Ohio; letter printed in *fac simile*, on 5 sheets]

The Obispo Rubber Plantation Co., New York. =Special Report of Lewis A. Amsden, on the company's property "San Silverio el Obispo," in Oaxaca.

Isthmus Rubber Co. of Ubero, New York. =First Annual [Inspection] Report. By Byron W. King, of Pittsburgh. 1903.

Pan-American Planters Co., Chicago =The Pan-American, Vol. I, No. 1, February, 1903.

## GUTTA-PERCHA IN THE PHILIPPINES.

THE report on Gutta percha in the Philippines by Dr. Penoyer L. Sherman, Jr., of the Philippine forestry bureau, summarized in THE INDIA RUBBER WORLD of February 1, 1902 (page 137), is supplemented by some details of interest supplied by him in a later report of the bureau, for the fiscal year 1901-02. He records an expedition in search of Gutta-percha trees, with the result of confirming the belief already entertained that a considerable supply of gutta existed in the Philippines, though as yet the most valuable species (*Dichopsis gutta*) has not been recognized. Dr. Sherman explored portions of the large island of Mindanao and the islands and towns of the Sulu archipelago, finding not only Gutta percha trees, but that the Chinese had already built up a much larger trade in the product than is indicated by the customs returns. So well are the natives controlled by these traders that the existence of Gutta percha was denied in many places where Dr. Sherman afterwards found it, and the secrecy of the methods employed is carried to such an extent that when the gutta reaches the Singapore market its source is not known there. The amount of Gutta-percha which paid an export duty to the Philippine authorities during the twelve months ended June 30, 1902, was 373,331 pounds; of the imports at Singapore in 1901, only 14,000 pounds were credited to the Philippines.

In Mindanao Dr. Sherman was surprised at the extent of country over which Gutta-percha exists. The natives say that all of the mountain region of southern Mindanao contains Gutta-percha. Much of the country, of course, has not been explored by Americans, or even by gutta collecting natives, but so far as any one has gone, the trees have been found, and in none of the towns visited by Dr. Sherman on the south coast did he find Chinese or Moros who were not engaged in the Gutta-percha business, shipping the product through Cottabato. Going inland, Dr. Sherman found large Gutta-percha trees, some of which were felled for him by the natives and the *latex* extracted by the usual methods. One tree, 160 feet in height and 8 feet in circumference, yielded  $9\frac{1}{2}$  pounds of dry Gutta-percha. Had the tree fallen so that it could have been "ringed" entirely around, and had precautions been taken to catch all the milk which was lost on the ground, Dr. Sherman thinks there would have been 20 pounds, while if all the gutta contained in the bark and leaves could have been secured there would have been 150 to 200 pounds. This is typical of the wastefulness of the native methods in all Gutta-percha districts. In much of this region the trade is controlled by a Moro datto named Piang, with the aid of a Chinese agent at Cottabato. Piang claims to observe the government regulation against the felling of Gutta-percha trees, but Dr. Sherman found this method practiced by

his men, nevertheless. Similar conditions were also found on some of the smaller islands visited, particularly on Tawi Tawi.

Having made a study of the material, Dr. Sherman declares that a good quality was found by him, but the customs officials, not being judges of Gutta-percha, are forced to accept the valuations made by the Chinese, with the result that the exports yield less than the proper amount of revenue. The natives, it is asserted, are also cheated by the traders, both in regard to the quality of their produce and in the weights.

As a result of Dr. Sherman's report, the secretary of the interior for the Philippines, Dr. Dean C. Worcester, in whose department the forestry bureau is embraced, asserts that "at the present rate of destruction there will be no Gutta-percha trees standing four years hence." He is inclined, therefore, in view of the evident uselessness of ordinary measures for protection of the trees, to recommend the establishment of a government monopoly of Gutta-percha. Exportation, except by the government, could be prohibited, and such prohibition could be made fairly effective. Government buyers could be located at suitable points. The government could well afford to pay a price considerably higher than that now prevailing for the Philippine product, thereby avoiding ill feeling on the part of the gatherers, and by limiting the amount which it purchased could greatly retard the present rapid destruction of the trees. The government buyers would necessarily come in closer contact with the collectors, and something might eventually be done in the way of introducing proper methods of extraction in place of the present destructive processes. At all events, the establishment of suitable extraction plants would make it possible to utilize the large amount of Gutta-percha which is now left in the bark of trees that have been felled and ringed. By the way, Dr. Worcester says that a method has been worked out in the government chemical laboratory for the extraction from the Philippine product of a chemically pure gutta, equal in every way to the best heretofore put upon the Singapore market, the purifying process involving the loss of about 50 per cent. of the original mass.

Dr. Sherman also investigated the question of rubber resources. No rubber was found in Mindanao, but in the Sulu islands he saw an abundance of large rubber vines, or creepers, from which rubber was extracted by cutting them so freely that they soon died. Samples which he secured, he was told at Jolo, would bring at Singapore a price equal to 32 to 40 cents, gold, per pound. It appears that, during 1901-02, in addition to Gutta-percha, there were exports of India-rubber from the Philippines on which duties were paid, amounting to 282,996 pounds.

## THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

*By Our Regular Correspondent.*

THE numerous firms who in one way or another have found themselves involved in loss owing to this unfortunate affair will naturally not have much of a complimentary nature to say concerning the principal actors. There are, however, those who have not been hit by the failure and who can therefore view the situation with equanimity, who are ready enough to testify to the benefits which the firm have conferred, though perhaps without set purpose, upon the rubber manufacturer. I think I am correct in saying that the advent of this firm upon the raw rubber market and their eagerness to secure business had a good deal to do with breaking up what was formerly practically a monopoly at Liverpool. With the methods employed by the firm I am not at present concerned; I am merely indicating their sequence. That this has resulted in rubber being sold at lower prices is admitted by manufacturers, and as I have said those who have not been hit by the failure are disposed to testify to the amelioration which the firm effected in the conditions formerly affecting the purchase of raw rubber. There are now four or five times as many rubber merchants than there were twenty-five years ago, and the competition thus induced has naturally been welcomed by the manufacturer.

It cannot be said that the result of the Irish motor-car race is particularly gratifying to the British, and least of all to the Dunlop company. Of course the fact that a particular set of racing tires failed to acquit themselves creditably is no proof of general inaptitude in this branch of the rubber manufacture, but still it is unfortunate that the occurrence should have given plausible grounds for detractors of the Dunlop company to discourse at large on the inferiority of these tires compared with the Michelin and Continental makes. Just as a success in this race is a wide advertisement of a favorable character, so does a failure act in a like degree, but in the reverse direction. With their experience behind them it is somewhat difficult to understand how the Dunlop company should supply tires so susceptible of punctures as proved to be the case in this race.

THE number of people who have read, though perhaps only casually, a somewhat sensational article in the *London Daily Mail* on root rubber in West Africa, is no doubt greater than of those who have read the earlier comprehensive article on the subject in the May issue of THE INDIA RUBBER WORLD. The subject is undoubtedly of interest, but there does not seem to be any reason at all for the *London daily* to talk about an impending revolution in the rubber trade. This remark has proved somewhat staggering to a good many readers, to judge by the queries which have been put to me; probably if the writers were questioned it would be found that they could not discriminate between the trade in raw rubber and that of the manufacture. But of course practical people do not as a rule pay much attention to newspaper scientific articles, and probably the one under discussion would not have attracted so much attention if the opinions of Mr. John Holt, of the Liverpool shipping trade, had not found expression therein. I take it that we now know the *fons et origo* of a certain quality of rubber long on the market, about which ignorance formerly prevailed. This is of course

interesting; whether it is important remains to be seen. If the knowledge can be utilized to good effect by those concerned with rubber planting, its importance will be demonstrated, though even supposing that the plant can be cultivated to advantage there does not seem any cogent reason why a revolution of any sort should be apprehended, all the more as no claim is made that the rubber is equal to Pará or even approximate to it. I note that in a letter to *The Engineer* (London) Mr. J. T. Wicks says that seven years ago Messrs. Hecht Frères, the well known rubber merchants of Paris, explained to him the method followed by the natives in gathering the Benguela root rubber, so here we have another proof of the want of novelty in recent announcements concerning this rubber.

WITHOUT attempting anything like an adequate comment on what Dr. Weber has recently said on this subject in a contemporary, yet the importance of the matter invites a short reference. It certainly seems to have been generally thought that vulcanized rubber was more susceptible to the actinic rays than is raw rubber. His experiments show that this is not the case. In experiments of this sort it is of the first importance that the conditions shall be identical, and the particular condition of the thickness of the test piece is quite the most important. He lays stress upon this, and it is from disregard of this obvious condition that I imagine the discrepancies among previous experimenters are due. At the same time, it should be borne in mind that though thin films of rubber are of the greatest value in determining scientific theories, the figures they yield have but a limited practical value, owing to the fact that in so many applications of rubber the depth or thickness has to be reckoned with as a far more important factor than the superficies. With regard to the effect the mixing rollers have in reducing the resistance to atmospheric oxidation Dr. Weber's figures are quite startling, though not altogether unexpected in their trend. So long ago as 1865 Dr. W. A. Miller found that on exposure to sunlight masticated rubber was much more adversely affected than unmasticated. On the other hand, Mr. W. Thomson, on the result of a single experiment, expressed the view in 1891 that overmastication was not a source of injury to the rubber. As far as I have gone into the matter, Dr. Weber's results are what I should have expected, and it behooves manufacturers to see that rubber is "washed" no more than is absolutely necessary.

THE recently issued Report of the Chief Factory Inspector discloses a rather serious state of things with regard to a branch of the trade which has not hitherto come in for obloquy, such as has long attached to the cold cure process. It appears that lead poisoning is somewhat rife among the girls employed in rubber boot and shoe factories, the source of contagion being litharge in the varnish which is used in making joints. As a rule in rubber works, women and girls do not come in contact with lead compounds, and with regard to the men engaged in the mixing room, precautions are now in general operation to minimize the danger from saturnine poisoning. With regard to the effects of lead on individuals there is plenty of evidence to show how variable is its nature, some people being affected to a much greater extent than others. Idiosyncrasy evidently plays a prominent part, and it would seem highly desirable for factory owners,

ECHOES OF THE  
KRAMRISCH  
FAILURE.THE  
GORDON BENNETT  
CUP.ROOT  
RUBBER.OXIDATION  
OF RUBBER.RUBBER WORKS  
HYGIENE.



when taking on hands, to make efforts to discriminate between applicants for employment. It would not of course be particularly easy to arrive at a correct judgment in the slight data available, but something in this direction might be done in order to minimize as far as possible the risks of trouble and possible prosecution incurred by employing those who are eminently susceptible to lead poisoning.

IT would be very stale news indeed to enlarge upon the difficult times which British cotton spinners are experiencing, and least of all is it necessary to enlarge upon the matter to an American auditory. The facts are well known, and it is no good enlarging upon them. Where knowledge is not so general, however, is the degree to which different manufacturers have been hit in existing contracts with *inter alia* rubber manufacturers. One rubber firm told me the other day that they had contracted well ahead for their requirements and were therefore not concerned with the rise in prices. I imagine, however, that there must be many who are not in so fortunate a position, and who must perforce feel the pinch. Of course the recent rise in the selling price of mechanicals had in view the rise in cotton and certain minerals as well as India-rubber, and the extra cost of cotton should not therefore prove a serious stumbling block to trade. Another contingency, however, has to be faced, and that is, with the partial stopping of so many mills, the demand for mechanical rubbers must necessarily decrease.

AS far as I can understand the reason why the manufacture of hollow balls by the Cox machine has not proved an entire success is that for efficient working it is necessary to use a better quality of mixing than in the case of the hand made ball. This naturally puts those who use the machine at a disadvantage in this highly competitive business. There certainly is a saving in labor, but this is more than counterbalanced by the increased cost of the mixing. With regard to lawn tennis balls, the demand is as great as ever, the game as far as clubs and tournaments are concerned, showing none of that falling off which was prognosticated at the resurrection of croquet a year or two ago.

THE recent opening of the Anglo-Belgian telephone cable is an indication of continued progress in submarine telephony.

THE distance considerably exceeds that of the Scotland-Ireland and Dover-Calais cables, being slightly over 47 miles. Transoceanic telephony is still a problem of the future, and it must be confessed that no material progress has been made in recent years in the way of overcoming the deterrent of the electrostatic capacity of the Gutta-percha insulation. There are obvious reasons why the dry core paper cable used in subterranean land lines cannot be employed for deep sea work, great as has been its success in ousting Gutta-percha for land work. Perhaps it may not be superfluous to mention that the electric current used in telephony is a very feeble one—much more so than for telegraphic purposes; a most perfect insulation is therefore required to prevent leakage. Dry air is the best insulator, and if we take this as unity, the figures for the specific inductive capacity of some other bodies in use are: Gutta-percha, 2.46; India-rubber, 2.22; shellac, 2.74; paraffin, 1.99. The problem is to find some substance more closely approaching to unity than do these substances, and this is a field in which there is considerable profit to be reaped by the successful inventor.—With regard to Callender's compound, which has always had a sort of mystery attaching to it, it is said by Dr. Weber in his book to consist of stearine and pitch heated with sulphur. It was generally supposed to contain ordinary Trinidad bitumen, vulcanized in some way or other. I believe the reference quoted is the

only one in which the veil of mystery has been lifted. In Callender's cable works the manufacture is kept as dark as possible, the employés generally not being permitted access to the particular department in which it is made.—Recent events in the way of interfering with wireless messages have given fresh hope to those interested in the established cable companies; it seems that the Marconi system as at present developed has decided limitations to its utility.

IT is to be hoped that this firm, which has recently been formed from the Tubeless Pneumatic Tyre & Capon Heaton, Limited, so long in liquidation, will again achieve something like the success of its earlier days, when the late Mr. Harry Heaton, Jr., was the moving spirit. With the reasonable capital of £30,000 it should be able to work its old local connection at Birmingham to advantage, despite the new competition of the Dunlop company.

SO numerous have been the failures of attempts to utilize cellulose as a substitute for India-rubber, that it is satisfactory to be able to refer to its entry into certain rubber works with good results, though only as an appendage to the mechanical equipment. I refer to the pulleys made of compressed waterproofed paper, which have recently been put upon the market by Samuel O'Neill & Sons, Limited, Castleton, Manchester, the sole makers in Great Britain. The idea originated in Germany, where the patentee has amply demonstrated the utility of his invention.

GOLFERS are getting somewhat bewildered by the number of special balls which lay claim to their patronage. The Stoughton ball, made by Messrs. D. Moseley & Sons, is one of the latest. It is one of the rubber variety, Messrs. Moseley having the sole British rights of the American patent. The fact that the retail price is a trifle less than that of the Haskell and Kempshall balls is a point which is certainly in its favor with a large number of players.—The extensions to the works of the Irwell Rubber Co. (Manchester) are on the point of completion, which is tantamount to saying that the capacity of the works is now largely increased. I understand that very complete arrangements have been made for dealing with the increased business in rubber covered rollers for paper makers, dye works, etc., a branch for which the firm has long been well known.—As some misapprehension seems current with regard to a case of similarity in name it may not be superfluous to state that Mr. Herbert Standing, so well known in connection with the *India Rubber Journal* (London), is quite a distinct personage from the gentleman of the same name who acts as secretary to Messrs. I. Frankenburg, Limited, of Salford.—I saw in process of construction the other day in one of our large works a rubber washing machine of a (to me) quite novel type, and was told on enquiry that it was a type commonly used in America. On a future occasion I hope to speak as to the satisfaction or otherwise given by the machine, which I believe is the first of its kind to be used in Great Britain.—Mr. Thomas Rowley has had a serious attack of illness, but at the time of writing I am glad to be able to report that his condition shows a decided improvement.—I am informed by a firm in the substitute trade that the idea of coloring substitute various tints (as recently referred to in these notes) is not at all a novel one, and that it has been tried in former years with results which were anything but encouraging.

A MEDAL has been conferred by the Société de Géographie Commerciale de Paris upon M. Émil De Wildeman, of Belgium, in recognition of his work, "Les Plantes Tropicales," a review of which appeared in the February issue of this journal.

THE  
COTTON  
SITUATION.

HOLLOW BALL  
MANUFACTURE.

ELECTRICAL  
MATTERS.

CAPON HEATON & CO.,  
LIMITED.

A NEW USE  
FOR CELLULOSE.

NEWS  
IN BRIEF.

## THE MERIT OF HEAVY AUTOMOBILE TIRES.

**I**N a recent French work on "The Science of Automobile Touring" the author, M. Leon Auscher, devotes a chapter to the subject of tires, in which appear some suggestions of interest and practical value. The author endorses the declaration of Baudry de Saunier, that without the pneumatic tire, however great the mechanical improvements which have been evolved, we should never have had automobilism as we now know it. He gives credit to Dunlop for the birth of modern cycling, and to the Michelins—the French tire manufacturers—for making the automobile possible.

The first automobile with pneumatic tires made its appearance on the Paris-Bordeaux route in 1895. The tires punctured frequently, but Michelin had demonstrated the possibility of traveling with carriages of this sort, and it only remained to perfect the invention. Two years later a steam carriage built in Dion was rolling at the rate of 60 kilometers [=37½ miles] an hour upon the Marseilles-Nice route. "The automobile rail had been discovered." The perfecting of the tire, however, was a longer process than the invention. Among the difficulties to be overcome, the greatest was in increasing the powers of resistance of the tire. The size progressed from 65 millimeters [=2.60 inches], to 90 mm. [=3.53 in.], and to 120 mm. [=4.72 in.] in diameter. At every stage it was believed that the sufficient limit had been reached. But at every stage experience proved the necessity for making the tire stronger, and that a tire could not have too great powers of resistance. Hence tires have been produced up to 150 mm. [=5.90 in.] in diameter—which figure now holds the record.

Each of these improvements further enabled manufacturers of automobiles to improve their carriages from the double point of view of the reduction of horse power and the general betterment of the mechanism. Thus our motors can confront the better type of roads with the maximum of speed, without making allowance, so to speak, for the resistance of the ground. All of which goes to prove that if the pneumatic tire is not yet perfect, it already realizes many of the *desiderata*, and no longer constitutes a permanent discomfort in the life of the *chauffeur*.

Our author favors the use of wheels of uniform size on motor cars, furnished with uniform tires. One advantage is that the number of reserve tires to be carried on a journey is thus reduced to a minimum. The rear wheels always support a much greater weight than the front wheels—usually three fifths on the rear axle and two fifths on the front. Hence the hinder tires work under a greater strain; furthermore, they are on the motive wheels, which tends to their wearing out much sooner. With four uniform wheels, it is possible to exchange to the front wheels the back tires when they have become worn to the point of being dangerous in the rear, but are still fit for service in the front.

Upon ten carriages, it will be found that nine have tires that are too weak. Manufacturers are apt to overlook the fact that their frame work may carry considerable carriage loads, and thus fail to specify tires of proper strength. Then inexperienced patrons, as a rule, demand too light a weight of frame and accessories. It would be to the interest of tourists to provide themselves with tires stronger than may seem absolutely necessary, especially as carriages almost universally become burdened with unforeseen accessories. What is lost in speed by the use of heavy tires will be regained by avoiding accidents.

The tire of 90 millimeters is capable of supporting a maximum weight of 450 kilograms [=992 pounds] per wheel, or 900 per axle. Now in a carriage weighing 1500 kilos [=3307 pounds], the rear axle carries normally 900 kilos and the front 600. The 90 mm. tire will therefore be inadequate, for it travels continually at its limit of resistance. The wearing out will consequently be rapid, and frequent breaks will occur, while any overload—always possible—will still more endanger the endurance of the tire.

The 120 mm. tire, however, supports 600 kilos [=1323 pounds] per wheel, or 1200 kilos per axle, which affords an excellent margin for protection against accidents. Objections have been urged against tires of such size, because (1) of the additional difficulty, at first, in driving the motor; (2) an additional heaviness of appearance to the eye; and (3) in higher price. But our author has found no difficulty in the management of a motor carrying 120 mm. tires on the front wheels, while as for appearance, he asserts that the eye accustoms itself readily to appreciate a construction the utility of which the brain understands. As for the greater first cost of the larger tires, this is soon offset by the lessened necessity for repairs and replacements. An intermediate tourists' tire is now produced, of 105 mm. [=4.14 inch] diameter, which is capable of sustaining a weight of 150 kilos in excess of the normal strain upon the rear axle of a carriage weighing 1500 kilos.

But it is not enough to secure suitable tires. They require perfect care. Two *chauffeurs*, placed in exactly identical conditions, making use of the same character of tires, will find widely different results in their wear and tear—one outfit of tires averaging two or three times as long as the other. There are three things which a careful driver should avoid—the unnecessary use of brakes, a too great frequency in turning (and particularly in making short turns), and too brisk starts. Not only the tires, but the delicate mechanism of the motor itself, may be injured by brusque, short, turns. And tires must be placed on the wheels with care, and not used without being inflated to the proper degree.

## DETACHABLE VS. SINGLE TUBE MOTOR TIRES.

BY AN AKRON CORRESPONDENT.

A POINT in tire manufacturing on which manufacturers—Akron manufacturers at least—have come unanimously to agree is that the single tube tire is to be almost wholly supplanted by the clincher or detachable. The main reason for this lies in what is asserted to be a fact, that the detachable tire does all that the single tube can do on any vehicle and a great deal more; that it is excelled in no point or manner by the single tube tire; and in addition has extraordinary advantages which the latter does not possess. Chief of these is the "endless chain of economy."

The claim is made, for instance, that with this tire the outer case may be cut and punctured in a score of places, but as long as the inner tube, the air cushion, is not injured, the tire is practically unharmed. And if the inner tube be punctured, it is a simple matter to unfasten the outer case as much as needs be, pull the tube out, patch it, and soon restore everything to working condition. Moreover, if the inner tube be so damaged that it cannot be instantly repaired, a new tube is readily obtainable—the auto tourist carrying two or three with him, no doubt. A new tube can be quickly put in place and there is no expense save for that; the casing remains as before. The injured tube



can be repaired at another time. Still further, if the casing gives out at last, the inner tubes may be in such good condition that only the casings need be renewed—another stroke in economy.

The demand for the detachable or clincher tire—the words are synonymous—has come so far to exceed the demand for the single tube tire that it is said that few if any of the latter will be manufactured another season. The detachable is *the* tire. Improvements may be made upon it, but the right principle of construction has been found and for a long time to come, it is believed, the bettering process will be confined largely to compounding. The solid tire will be steadily improved in the same manner, and in the main there will be but the two styles—solid and detachable pneumatic.

More than ever before is the manufacture of tires—especially automobile tires—being reduced to a truly scientific basis. Where in time gone by pretty much all things were tires that came to the mills of the automobile manufacturers, now tires are being made to fit different machines with scarcely less nicety and precision than milady's tailor displays in fitting her gowns. The exact weight of the vehicle, the distribution of the weight, the requirements which the machine is built to meet—all these and minor considerations are being taken in account. In other days, too, it was not an uncommon thing for the tire manufacturer to discover that the automobile manufacturer or owner had placed the lighter pair of tires upon the drive wheels and the heavy ones in front. They don't do such things anymore, save in rare instances, perhaps.

The demand for tires of all kinds continues, but especially that for automobile and carriage tires is excellent. Even now there is a prospect that next season will discover a still busier situation than this year presented.

A new term is being used by tire manufacturers which may or may not be generally adopted. That remains to be seen. The word is "profile." A tire is described as being of such or such a profile, according as the cross section appears in the blueprint or in the tire itself, revealing the construction and dimensions.

[A RUBBER manufacturer in New York, who is largely interested in tire problems, expresses opinions at variance with those contained in the foregoing. He believes that in cases of puncture the inner tubes of detachable tires are quite as likely to be injured as is the inner layer of the single tube tire. Considering the higher first cost of the detachable tires and the cost of replacing inner tubes, the single tube is enough cheaper in the end to offset considerable trouble in repairing the latter. Most of the trouble with single tube tires, he asserts, has been due to the cheap class of goods on the market in the past, for vehicle use as well as for bicycles. With such goods largely eliminated, however, he predicts a return to favor of the single tube, particularly for the lighter vehicles.]

#### A CARRIAGE MAKER ON TIRES.

WRITING in *The Carriage Monthly* (Philadelphia) Mr. C. Fred Kimball, of the important carriage manufacturing firm of C. P. Kimball & Co. (Chicago), says:

"I do not think that in all the years I have been in the carriage business I have ever known of a single invention that might have been of as great value to the manufacturers (meaning in this instance rubber manufacturers) and to the carriage builder as that of rubber tires, and I do not think I have ever seen so valuable an invention so completely lacking in good results to the carriage builder as this same matter of rubber tires.

"Most of the carriage builders have put them on without profit, thereby increasing their volume of business without a

corresponding increase in profit; while the rubber manufacturers have in most cases sold their tires to the carriage user as low, and in many cases lower, than they would sell to the carriage builder.

"This, together with the fact that many carriage builders, seeing that they were deriving no profit from the business, have urged the rubber manufacturer to make cheaper and cheaper grades, has brought about a bad condition of affairs, that is injurious both to the rubber manufacturer and the carriage builder."

Commenting upon a number of letters from the carriage trade published in its last issue *The Carriage Monthly* says: "The drift is evidently in the direction of the very best grade of rubber tires that can be made. The trade has had several years' experience with good, bad, and indifferent tires, and it is able to render a verdict against which it will be dangerous to make an appeal. It will be gratifying to those interests devoting themselves to the production of the best possible work to know that their course is indorsed. They will receive encouragement to continue in their course. Whatever future competition may develop will probably be along the line of quality rather than price."

#### OBSCURE CAUSES OF FACTORY FIRES.

BY JOHN L. KILLON.

EXPERIENCE has taught rubber men, as well as manufacturers of other kinds of goods, that fire insurance companies regard their factories as hazardous risks. True, more money is made by insuring factories against fire than by any other similar line of business; but the risks are perhaps great enough to justify the insurance companies for the policy they pursue.

Certain it is that the list of possibilities of fire is startling in length. If bituminous coal is used, conditions under which it may take fire by the development of heat within the mass are not always easy to avoid. And a mass of bituminous coal on fire in a basement or other place of storage presents a particularly nasty problem to firemen, because the first application of water causes the top of the mass to cake over, preserving the fire indefinitely. Then there is cotton waste. Dry cotton waste is safe enough, but as soon as any animal oil is on it, it must be kept out of the rays of the sun and at a distance from fires. Linseed oil and turpentine, especially when both are present, are also dangerous associates for cotton waste, frequently giving rise to spontaneous combustion. Naphtha and gasoline require little comment, but much care in handling; and the same may be said of lubricating and other oils. Just common looking dust, swept from the floor and left in a corner or dumped in a wooden box, often contains matter that will ignite under the sun's rays, especially if they fall through a glass window in which some small bubble or other flaw serves the purpose of a burning glass.

All the above dangers the rubber manufacturer shares with men in other lines of business, but he has special troubles of his own. Of course, not all the litharge and whiting and lamp-black are used in rubber factories, but at least there are factories in other lines where they are not used. The compensations in the rubber man's freedom from the necessity of using certain inflammable things that are used in other manufactures, need not be dwelt upon here. But litharge and whiting and lamp-black are all used in practically all rubber factories, and all of them are subject under wrong conditions, to spontaneous combustion. Coal tar also introduces an element of danger. Sulphur needs to be kept with care, though probably not spon-

taneously inflammable. Still another source of danger is found in vulcanized rubber when it is ground up in the process of reclaiming. Care is necessary to prevent the mass from heating to the point of combustion.

The next question is, what to do about it. It is possible, of course, to do nothing but keep your insurance premiums promptly paid and rebuild after every conflagration. But that course is not profitable, nor is it generally necessary. The precautions that may be taken with only slight expense and with a perfectly practicable amount of trouble will generally be successful. While much of what follows may seem very elementary to experienced manufacturers, it is safe to premise that THE INDIA RUBBER WORLD has readers who may find some of the suggestions interesting and profitable.

In general, the protection against spontaneous combustion consists in keeping the inflammable substances dry and cool. Bituminous coal, for instance, should never be kept in a damp cellar nor in bins close to the heat. If large quantities must be stored, they should be given as much area as possible, in order that the depth may not be great. Ventilation must be provided almost as carefully as for employes. If wooden bins or bunkers are used the coal should never be filled in against the sides, as may be done with other kinds of fuel. Generally speaking, no partitions of any kind should be used.

As to naphtha and gasoline, they should be stored apart

## TRAIN LOADS OF SEWING MACHINES.

THE magnitude of the new Singer plant in South Bend, Indiana, and the output of sewing machines by this great company through its various agencies, are matters of which very few people have much knowledge. The fact that the company now sells 1,500,000 sewing machines annually may seem incredible, but such is the case.

The factory in South Bend, which covers an area of 80½ acres, is the distributing point for the middle west of the United States. Many large shipments have been made since January 1, including two consignments that were unusually large. The first of these shipments was a 25 carload lot, made on April 30. In the cars were 2850 complete machines, packed in crates and assembled ready for use. Their destination was represented in various places in Minnesota, Wisconsin, and Ohio. The train of machines left South Bend over the Lake Shore railroad.

The second similar train load also consisted of 25 cars, loaded with 2552 Singer sewing machines. They were sent to different points in Wisconsin, Illinois, Minnesota, Missouri, Arkansas, Kansas, Colorado, Montana, Iowa, Michigan, Nebraska, and South Dakota. This consignment was shipped May 9. Each car in both trains bore the trade mark sign of the company, which consists of a big S in bright red, standing out con-



A TRAIN LOAD OF SEWING MACHINES.

from the building; and if piped in should be conducted where they will not come in contact with steam pipes or other warm surfaces. The quantity kept on hand should be as small as possible, and the storage tanks must of course be strongly built. If, in addition to such precautions, employes can be dissuaded from smoking while they carry naphtha about or from warming gasoline over a frame, the chances of safety are good.

Metal receptacles and shaded places away from heated pipes are the requirements of the more or less inflammable powders, including dust as well as more useful accumulations of matter. In short, all the precautions against factory fires starting from within, are but amplifications of three maxims: Keep cool; keep clean; keep dry. Without stopping to moralize on other applications of these injunctions, the man who consistently and sensibly applies them to the conduct of a rubber factory, is likely to have little trouble from fire. And what trouble he does have will come from incendiaries or lightning flashes rather than from spontaneous combustion or other internal causes.

THE Rio Michol Rubber Plantation Co. (Berkeley, California), with \$600,000 capital, have filed articles of incorporation in Arizona. Incorporators: L. S. Sherman, W. F. B. Wakefield, L. A. Washburn,

spicuously in front of a woman represented to be working on a Singer machine. The trade mark attracted no little attention as the cars swept through the country and helped to add to South Bend's fame as a busy manufacturing center.

This plant, which is one of the most modern and most complete manufacturing establishments in the world, makes only the cabinet work and the iron stands for the machines. The heads, embracing the mechanisms, are shipped from the factory at Elizabethport, New Jersey. The South Bend factory makes parts for the big plants in other cities, and is one of an extensive system of factories which in themselves are each the largest of their kind in the world. The company has, besides those already mentioned, factories at Kilbowie, near Glasgow, Scotland; in Montreal, Canada; and in Russia. Branch factories are located at Cairo, Illinois, and in Germany.

Singer machines are sold in all parts of the world. More are disposed of in foreign countries than in the United States. A peculiar feature of the sales department of the company lies in the fact that every machine sold is disposed of through one of the company's agencies. No jobber is allowed to handle the machines. Consequently, no matter in what part of the world the machine is bought, it is sold direct to the purchaser by the Singer Sewing Machine Co.



## THE EVOLUTION OF "GALALITH."

THE new material "Galalith," mentioned lately in THE INDIA RUBBER WORLD [June 1, page 306] as having been taken up on an important scale by the Vereinigte Gummiwaaren-Fabriken, Harburg-Wien, as a substitute for hard rubber or celluloid in the making of certain goods, is the subject of a recent report by the United States consul general at Coburg, Germany—Mr. O. J. D. Hughes. He says that a patent was issued fifteen years ago for the manufacture of buttons, handles, and the like from casein, the principal albumenoid substance of skimmed milk. To fresh casein a metallic salt was added, yielding a firm substance when pressed into molds. But it became brittle, and softened easily in water. To counteract the latter drawback soap was added, but the articles were then both soft and brittle. Then a process was invented to make the casein insoluble by adding formaldehyde, but the product distended in water, and was abandoned.

Recently a new process has been evolved. The first step was to make the casein insoluble by the addition of salts and acids. The product was dephlegmated and dried, when, by the addition of formaldehyde, Galalith was obtained. To produce, for instance, a material similar to ebony, which could be used for handles of table knives, the process was as follows: "Dissolved casein was given a dark color by the addition of soot, and with the help of acetate of lead, a slate colored precipitate was obtained. This was mixed with water and the thin pap filled into a cloth stretched over a frame. The water becoming absorbed by the cloth, the pap contracted into a uniform, firm, and dark mass; this was placed in a solution of formaldehyde and, after being dried, a product resulted which in luster and color was equal to ebony. In this way a raw material is produced which the inventors have protected by numerous patents. An advantage of the new product as compared with celluloid is the fact that it does not ignite so easily and is entirely odorless." Of late trials have been made to produce, by the addition of vegetable oils, an insulating material for electrotechnical purposes.

## A NEW "KERITE" COMPOUND.

WILLIAM R. BRIXEY, in the specification of United States patent No. 728,851, recently granted to him for an improved vulcanized "Kerite" insulating compound, points out in detail wherein the new material differs from the compound patented under the same name by the late Austin G. Day, to whose business Mr. Brixey succeeded. In this connection, "crude Kerite" is the basic component of a compound which, when it is made complete by the combination with it of India-rubber at a vulcanizing heat, forms the material known as "Kerite." According to Mr. Brixey, although India-rubber is by itself one of the best insulators known, it possesses no durability for electrical purposes, and cannot be used alone. The object of his compound is to utilize the insulating property of the India-rubber, while imparting, by the use of other materials, the necessary permanency and the capacity to resist deteriorating influences.

"Kerite" in its original form included cottonseed oil, which has been omitted by Mr. Brixey, for the reason that "when a crude Kerite which contains cottonseed oil is united with rubber, the presence of this oil in the product impairs and lowers to a very great degree the insulating capacity of the rubber." He now adds talc, not as absolutely necessary to the making of a good compound, but because "its use will be found to give such an increased adhesiveness to the crude material and to render the latter so much better adapted to combine

with the India-rubber to produce the finished Kerite." He does not confine himself to the precise proportions here given for the different ingredients of "crude Kerite," but the patent specification suggests the following

## MIXTURE FOR 150 POUNDS.

Coal tar.....	25 pounds.
Asphalt.....	15 pounds.
Heat together to 350° F. for $\frac{1}{2}$ hour; then add—	
Linseed oil.....	70 pounds.
Heat again to 350° F. for 1 hour, let stand over night; heat up to 400° F., and add—	
Sulphur.....	10 pounds.
Heat up to 400° F. in $\frac{1}{2}$ hour and add—	
Sulphur.....	4 pounds.
Heat again to 300° F. and add—	
Talc.....	56 pounds.
Keep at same temperature for 1 hour, when vulcanization will have taken place, and the mixture can be poured into molds or allowed to cool in mass.	

Where "Kerite" is intended for the insulation of aerial wires or cables, the proportions of crude compound and rubber to be used are 4 to 1; if for underground conductors, 3 to 2; if for submarine cables, 2 to 3—in the latter case the amount of rubber being larger than of crude Kerite. The crude Kerite is first ground until it comes to a warm homogeneous mass. The rubber is put into the rolls, together with litharge, to aid the subsequent vulcanization of the mass, and oxide of zinc, to render the product more solid and to prevent its oxidation. Mr. Brixey also adds Chicle, the adhesive nature of which assists in the combination of the rubber with the other materials. Next the ground compound and the ground rubber mixture are placed in the rolls together, until all are thoroughly united, after which sulphur is added, but before the vulcanization is performed, and while the mixture is still plastic, it is applied to the electrical wires by means of the usual covering machines. Based upon the specification, the following formula may be stated for a material for insulating overhead wires:

Crude Kerite.....	54 pounds.
India-rubber.....	13½ pounds.
Litharge.....	3 pounds.
Oxide of zinc.....	3 pounds.
Chicle.....	1½ pounds.

Total.....75 pounds.

Add 5 pounds of sulphur for vulcanization. One other point of difference from Day's "Kerite" is that no sulphide of antimony or other sulphide is used. In connection with Chicle, Mr. Brixey refers to "Columbian gum," which he says may be used as a substitute, since it "costs only about half as much, and answers a better purpose." Previous patents have been issued to Mr. Brixey as follows: No. 714,858, for the manufacture of crude Kerite, and No. 714,859, for Kerite—both dated December 2, 1902. The last of the Kerite patents granted to Mr. Day was dated in 1885.

## UNITED STATES RUBBER GOODS EXPORTS.

OFFICIAL statement of values for the month of May, 1903, and the first eleven months of four fiscal years, beginning July 1:

MONTHS.	Belted, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
May, 1903.....	\$ 73,089	\$ 23,038	\$ 104,152	\$ 291,179
July-April.....	680,147	983,044	1,881,773	3,544,964
Total.....	\$753,236	\$1,006,082	\$2,075,925	\$3,836,143
Total, 1901-02...	578,572	981,058	1,607,448	3,167,078
Total, 1900-01...	508,873	684,236	1,584,864	2,777,993
Total, 1899-00...	432,472	372,212	1,258,515	2,123,249

WE MANUFACTURE

# Everything in Rubber

## MECHANICAL RUBBER GOODS

Hose, Belting, Packing, Valves  
Gaskets, Mats, Matting, Etc.

## DRUGGISTS', SURGEONS' AND STATIONERS' RUBBER SUNDRIES

## BICYCLE TIRES

## SOLID RUBBER VEHICLE TIRES

## CLINCHER AUTOMOBILE TIRES

## HASKELL GOLF BALLS



# *The* B. F. GOODRICH COMPANY

AKRON RUBBER WORKS

AKRON, OHIO

NEW YORK, 66-68 Reade St.

CHICAGO, 141 Lake St.

PHILADELPHIA, 922 Arch St.

BOSTON, 157 Summer St.

BUFFALO, 9 W. Huron St.

DETROIT, 80 E. Congress St.

DENVER, 1444 Curtis St.

SAN FRANCISCO, 392 Mission St.

LONDON, 7 Snow Hill, E. C.



# Interlocking Rubber Tiling.



As laid by in the Dining Room of the Hotel Essex, Boston, Mass.

It is noiseless, non-slippery, waterproof, thoroughly sanitary and so durable as to last practically a life time without requiring repairs. It may be laid directly upon existing floor, whether of wood, cement, stone or iron, therefore saving the expense of constructing a concrete floor which is absolutely necessary in all other kinds of tiling.

A perfect floor for business offices, banking rooms, court rooms, vestibules, halls, billiard rooms, smoking rooms, cafes, libraries, churches, hospitals, hotels, bathrooms, kitchens, etc.

Samples, estimates and special designs furnished upon application.

SOLE MANUFACTURERS,

**New York Belting and Packing Co., Ltd.**

25 PARK PLACE, NEW YORK.

BALTIMORE, 41 South Liberty Street, BOSTON, 232 Summer Street, PHILADELPHIA, 724 Chestnut Street, INDIANAPOLIS, 229 S. Meridian Street.  
SAINT LOUIS, 411 N. 3d Street, CHICAGO, 150 Lake Street, SAN FRANCISCO, 509-511 Market Street.

*Mention The India Rubber World when you write.*

ECCE SIGNUM.



## THOROUGHLY RELIABLE.

The policy of furnishing only the finest goods that can be produced with perfect materials, latest and best machinery, and highly skilled workmen of long experience, has been, is now, and will continue to be, the policy of

## The Mechanical Rubber Company,

CHICAGO, ILL.

Branch Store, No. 1810 Blake Street, Denver, Colo., where we carry a full line of goods.

Manufacturers of all kinds of rubber goods for mechanical uses—Hose, Belting, Packing, Gaskets, Bicycle Tires, Specialties, Moulded Goods, Etc., Etc.

If you are unable to satisfy your trade with goods you are supplying,  
If you are in search of good goods at fair prices,  
If you cannot get quick deliveries,  
If you are not getting fair value for your money,  
IN ANY EVENT,

SEND TO US FOR SAMPLES AND  
QUOTATIONS. . . . .  
WE CAN SUIT YOU EVERY WAY.

FACTORY, GRAND AVE. & ROCKWELL STS

**THE MECHANICAL RUBBER CO., 230 Randolph St., Chicago, Ill.**

*Mention the India Rubber World when you write*

## NEW GOODS AND SPECIALTIES IN RUBBER.

## "AGNOTA" SEAMLESS RUBBER GLOVE.

THIS glove is a distinctively new article of manufacture, the details of production being the subject of a patent [No. 732,360] granted to Clarence A. Lindsay. It is described as a dipped rubber article of strata of different degrees of elasticity, said strata being inseparably adherent throughout.



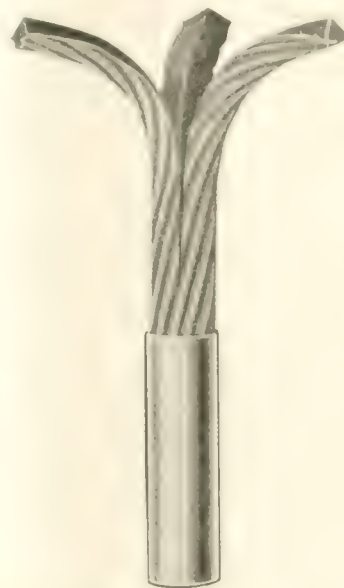
The inner layer or stratum is of pure gum, possessing a high degree of elasticity, and the outer layer of rubber compound possessing a lower degree of elasticity, to give body or thickness of stock and also containing any desired coloring matter. The reasons given for this new combination are as follows: Gloves made from pure rubber, such as used for surgical purposes, are too costly and delicate for use by nurses and for household purposes. To overcome this objection,

gloves have been made of a compound solution of rubber and coloring matter, which has the effect of lessening the elasticity and the durability of the glove, while adding in an undesirable degree to the thickness of the glove. The purpose of the present invention is to make a glove of approximately the same weight as a pure rubber article, while giving it body and color to suit, without sacrificing the elastic property or the strength of the glove to any appreciable degree. These goods will be billed to the trade "on approval."—The same manufacturing processes are applicable to other articles, such as ice bags, ice caps, nipples, bathing caps, balloons, and the like—all of which are sold by the same company under their trade mark "Agnota." The second of the accompanying illustrations relates to an ice bag so manufactured. It may be mentioned that these gloves and ice bags have been adopted for use during the current fiscal year by the United States Public Health and Marine Hospital Service. The same process is employed in making a miniature or toy "punching bag," which is having a good sale. Applications for patents have been applied for by Mr. Lindsay in several foreign countries. [The M. Lindsay Rubber Co., New York and Washington.]



## CORRUGATED RUBBER BOTTLE BRUSH.

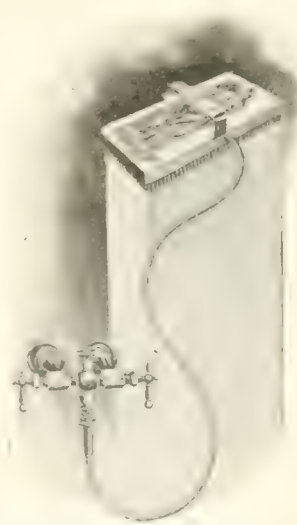
It is constantly recognized by bottlers of beverages of every kind that the utmost care must be taken in keeping the receptacles perfectly pure and sweet. One great obstacle in the past has been the old fashioned bristle brush used to wash out bottles. This brush after being used for a comparatively short time always began to leave its bristles within the bottles, a source of great annoyance both to the bottler and consumer. The Corrugated Rubber Brush here illustrated represents the latest method of cleansing bottles. This brush has the advantage of reaching every part of the bottle, yet with no portion of itself capable of becoming loosened or being dropped. Another feature is that the brush itself can be kept perfectly clean and that



it is exceedingly durable. This corrugated rubber brush is operated on a machine which has a capacity of washing 14,000 bottles per day easily. These bottles are placed over revolving tubes to the ends of which the brushes are attached and strong water pressure is applied while the brushes are revolving. It is specially to be noted that the use of this brush—doing away with devices containing metal parts—never breaks or chips bottles. [Yawman & Erbe Manufacturing Co., Rochester, New York.]

## "KNICKERBOCKER" INDIA-RUBBER FOUNTAIN BRUSH.

THE illustration herewith relates to a rubber bath brush, formed of some 500 rubber ducts, through the tip of each of which a tiny stream of water flows when the brush is connected to a combination hot and cold water faucet by means of a special India-rubber faucet connection. The brush itself is so pliable that a slight pressure of the hand will fit it to any curve of the body. The use of this brush carries the water with it wherever applied, giving a continual fresh clean flow through its hundreds of little tubes, thus avoiding the use of the same water over and over again—a marked advantage over the ordinary tub bath, which retains throughout the bath all soap used and all impurities washed from the body, leaving an unclean deposit in the tub itself to be scrubbed out afterwards. The outfit sold with this brush includes 66 inches of fine white rubber tubing, two nickel plated tube couplings, and one rub-

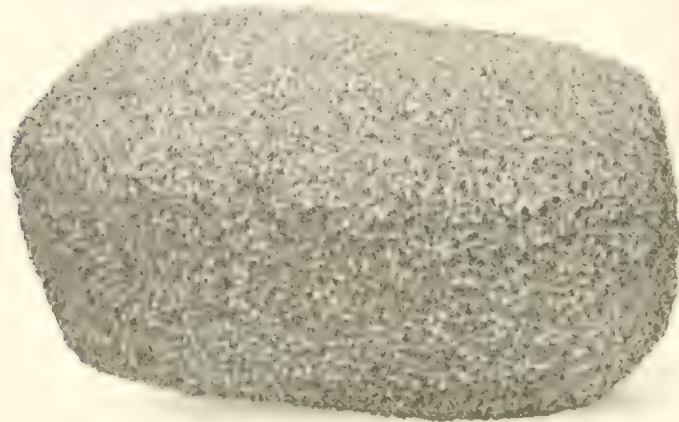




ber faucet connection with nickel plated mountings; price \$3.50. [Knickerbocker Manufacturing Co., No. 40 Dearborn street, Chicago, Illinois.]

#### THE GOODRICH RUBBER SPONGE.

THERE have been all sorts of rumors with regard to the successful manufacture of rubber sponges by American manufacturers, and a great variety of samples have been sent to the writer. Few of them, however, have approached even the European sponge. It was to be expected, perhaps, that when The B. F. Goodrich Co. (Akron, Ohio) took up the matter, they would either produce something particularly fine or else would not put a sponge upon the market at all. They now announce the production of a "perfect rubber sponge" and from the samples seen their contention is sustained. The cells are more



even than any we have yet seen and the color is bright and attractive. These may be minor points, but after all they go far to make a perfect article. The cut accompanying this shows their "No. 7" sponge, and it is understood that the manufacturers, having ceased experimenting, are now accumulating a large stock prior to putting them on the market. The new sponge also promises what has heretofore been most difficult—absolute evenness of product, and prompt delivery in any quantity. From a careful examination of several samples seen it would appear that a fine or coarse cell can be produced at will, and either a hard or a soft cure. This being the fact it will be seen that the very finest grades of natural sponges can be equalled if not surpassed.

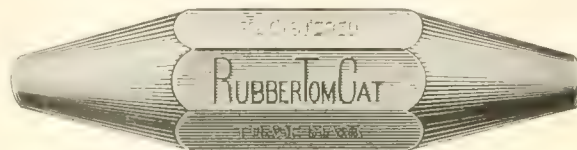
#### THE CANTON SEAMLESS HOT WATER BOTTLE.

IN view of the fact that, when trouble does occur in the use of hot water bottles, it is most apt to be traced to the seams, the new article here illustrated is made without seams. It is referred to as being made of rubber of a high quality, vulcanized with extreme care, and the manufacturers show their confidence in it by offering to replace any "Canton" seamless bottle which may prove to be defective in material or workmanship. It is not offered in competition with "bargain counter" goods. It is understood that a very satisfactory patent has been allowed on this bottle, though not yet officially issued. It is made in 2 quart and 3 quart sizes, each bottle in a neat box. [The Canton Rubber Co., Canton, Ohio.]



#### THE RUBBER "TOM CAT."

THERE are certain games that the boy primitive catches on to by intuition and plays regularly at certain seasons no matter what new ones may allure. They remain ever popular, ever new, because of a certain inherent simplicity and excellence.



Of them are "shinney," "marbles" and "cat." The latter is very old and, like golf, has known no especial change or improvement, until the American inventor began to study it. Then came a change, not in the rules of the game, but in the chief appliance—the "cat." This, according to immemorial usage, was simply a round piece of hard wood sharpened at the ends. It was so simple and so cheap that it seemed beyond improvement. The new "cat," however, with its wooden core, its black rubber cover, and its octagonal body, is sure to win. It will last longer, lie more solidly, fly farther, and is not so fatal to the integrity of window panes. [Gedney & Schaufele, No. 102 Fulton street, New York.]

#### THE "GRANGER" RUBBER BOOT.

THIS is a new boot, designed particularly for farmers' wear, which suggests the reason for its name. Instead of being lined with a heavy felt, which when it becomes damp from perspiration is hard to dry, this boot has a knit wool lining, which dries more readily and is also warmer. While having as much rubber in it as the old style short boots, it is materially lighter in the leg, because of the difference in the lining. This latter fact is important, since the other advantages of wearing a rubber boot, in many cases are offset by the fatigue caused by their weight. Manufactured by the Beacon Falls Rubber Shoe Co., and handled from their Boston office, Nos. 177-181 Congress street.

#### JOSEPH FALLEK'S PATENT RING GUARDS.

THERE are people who, for sentimental or other reasons, will not willingly remove their finger rings, even when there is danger of losing them, as for instance in sea bathing. The illustration shows a newly patented safeguard, intended to prevent the loosest ring from slipping off. The contrivance consists of a series of rubber cords, attached at one end to wrist ring and connecting at the other, by means of clasps, with the rings. The wrist ring may be used to hold the bathhouse or other keys. There is nothing unsightly about the device, and nothing to hinder the free use of the hand, in or out of the water. According to the inventor, "statistics show that 75 per cent. of rings worn in bathing get lost." The Ring Guard retails for 25 cents, and already has come into good demand at the seaside resorts. [Joseph Fallek, No. 47 East Eighth street, New York.]



#### THE CLELAND DAVIS GOLF BALL.

THE INDIA RUBBER WORLD is asked to correct a statement which appeared in its issue for July 1 [page 352], in a description of the "Gyro" golf ball, covered by patents granted to Cleland Davis, U.S.N., to the effect that its construction involves "layers of elastic material, wound on under tension." A specimen ball, which has been shown us, was made by stretching over an inner shell of celluloid a large number of small rubber

bands, applied by means of machinery, and gradually increasing in size with the growth of the core. The number of such bands used in the construction of the specimen ball shown was 306. This construction gives the Davis ball an element of novelty as compared with other rubber cored balls, and it is stated that the method of manufacture is more clearly pointed out in the specifications of another patent now pending. It seems proper to state, however, that the description which THE INDIA RUBBER WORLD is asked to correct was based upon the following paragraph in the original patent [No. 697,816]: "In the form of device shown in Fig. 3 the inner shell *A*, which may be of steel or celluloid, as before, is separated from the outer Gutta-percha shell *B* by a shell *C*, composed of a number of layers of fine rubber stretched on under tension." In another paragraph the inner shell is referred to as being "wrapped around with the rubber strands." We are willing to admit, however, that these expressions do not necessarily imply that the rubber is "wound on under tension."

#### THE PNEUMATIC GOLF BALL.

THIS ball, already referred to in this paper as the invention of Addison T. Saunders, is now being marketed. In size, weight, and appearance it does not differ from other balls, though in construction it consists of a hollow sphere filled only with compressed air, which the inventor has chosen as the best resilient known. The shell of this ball is designed to be practically rigid under the light impact of a putting stroke, but de-



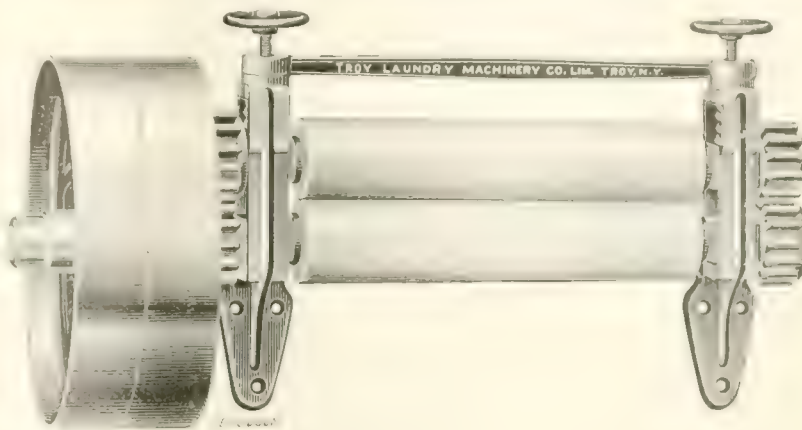
[A - Air retainer. B - Jacket for air retainer. C - Wound fiber. D - Tough cover.]

pressible under heavier blows, thus bringing into action the resiliency of the compressed air. "The weight giving portion of the Pneumatic ball," it is stated, "lies away from the center; hence a given degree of 'undercut' in a stroke gives the Pneumatic more 'underspin' than it does in a solid ball." By a well known natural law, this rapid rotation holds the ball true to its course and increases its "carry." The method of construction was detailed in THE INDIA RUBBER WORLD, October 1, 1902—page 17. [The Goodyear Tire and Rubber Co., Akron, Ohio.]

#### POWER WRINGERS FOR LAUNDRIES.

THE employment of rubber rollers for laundry purposes is by no means confined to the hand operated clothes wringers with which every one is familiar. Power wringers are made in considerable numbers, for use in the larger laundries, and an illustration herewith shows the mounting of a set of rubber rollers for such a machine, manufactured by the Troy Laundry Machinery Co., Limited (Troy, New York). The machines made by this company are of three sizes, calling for rubber rollers  $3\frac{1}{4}$  inches in diameter, and 18 inches, 24 inches, and 30 inches in length, respectively. These power wringers consist

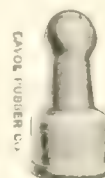
of frames of galvanized iron, with bearings of bronze metal; the pressure is applied through steel springs. The smaller of the three sizes mentioned weighs 200 pounds, and is designed



for 40 revolutions per minute. The rubber rolls are made by the American Wringer Co.

#### "PETITE" ANTI COLIC NIPPLE.

THERE is now being offered on the market, in a special small size, the well known "Anti Colic" nipple manufactured by the Davol Rubber Co. (Providence, Rhode Island). The idea of a small size nipple of this type was suggested by the management of the celebrated Sloane Maternity Hospital, in New York. In that institution not a few incubator babies have to be cared for, and the regular size nipples sometimes were found to be too large. Hence the new article, which has been termed the "Petite" Anti Colic nipple No. 247. The regular size is No. 147. It has proved popular already, not only for the purpose for which originally intended, but for "regular" babies as well. A special feature of construction of these nipples is the "ball top," and another is the three small holes (instead of the usual one hole), which gives a natural flow of milk. These features are protected by patents.



#### BAILEY'S "PETITE" COMPLEXION BRUSH.

THE daintiest article that Bailey has yet turned out is his "Petite" brush made of red rubber about half the size of his regular brush, and put on the market for half the price, which is 25 cents. That the brush is exactly what the trade called for is proved by the great number of rush orders that have been sent in since the first samples were shown. [C. J. Bailey & Co., No. 22 Boylston street, Boston.]

#### THE "SEARCHLIGHT" PACKING.

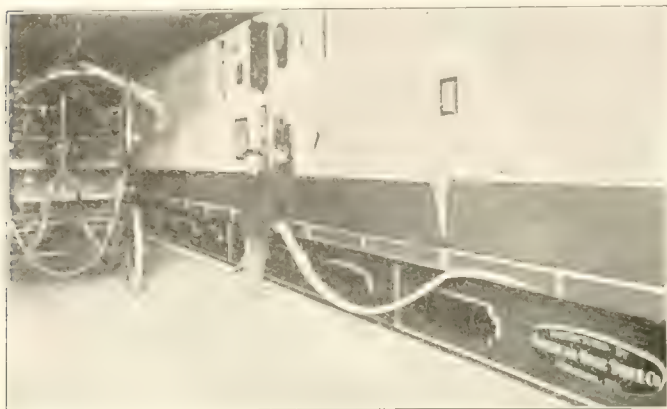
A NEW white packing that is growing in favor daily is that which has been put on the market under the excellent name "Searchlight." This packing was not marketed until it had been tested exhaustively for a year and a half. It is designed for high pressure steam, for oil and for similar work. It is pure white and beautifully finished. [The Republic Rubber Co., Youngstown, Ohio.]

AT the thirty-first annual meeting (London, July 6) of the Amazon Steam Navigation Co., Limited, the accounts presented showed a favorable condition of business; net profit for the year 1902 of £19,211 19s. 10d., and recommended a final dividend which, added to the distribution six months before, made a total for the year of 4 per cent. The company own 33 steamers, operating on the Amazon and its tributaries, and also hold shares in two ocean steamship companies and in the Manáos Harbour, Limited.



## NEW PATENT FIRE HOSE DRIER.

A SERIOUS problem which confronts fire departments is that of quickly and thoroughly drying hose after use. The covering of cotton hose, absorbing moisture as it does, requires careful attention to prevent mildew and decay. An objection to the hose tower—in which the hose is elevated to the top and suspended on end—is the expense involved, besides which there is a great deal of labor and inconvenience, and the wear and



tear of the hose. Where hose is placed upon racks or supports along the walls of engine houses, there is equal labor involved, besides a disorderly appearance of the walls. In either case much time is required for drying the hose, necessitating a large supply in order that there may always be dry hose available. There has been patented lately a new device—illustrated on this page—which consists of a box 51 feet in length (to accommodate a section of hose, without kink or bend), with a fan or blower attached to a funnel at one end, the blower being propelled by a motor (electric, gasoline, or water), which drives a strong current of air through the box, which, passing over and through the hose, absorbs and evaporates all the moisture in a very short time. The box is 22 inches wide and 25 inches high, and can be placed conveniently along the wall of an engine house. The hose can be taken directly from the reel and placed in the box, and removed when dry and replaced upon the reel, by one man. While in the box there is no strain upon the hose, which rests upon galvanized iron cross bars, which have depressions to prevent the several sections of hose from rolling together or coming in contact with the sides of the box. The size above mentioned will hold twelve sections (600 feet) at a time. [American Hose Drier Co., No. 112 North Eighth street, Lebanon, Pennsylvania.]

## DRYING RUBBER IN VACUO.

THE saving of time in drying materials *in vacuo*, not to mention other advantages, is so marked as to have led to the adoption of this method in a number of different industries. It has been demonstrated that rubber in sheets can be dried *in vacuo* within two hours, at lowest temperature and without oxidation, which latter takes place when rubber is dried in the atmosphere by weeks of exposure. Recent English writers, while acknowledging the injurious consequences of the old method of atmospheric drying, have found fault with the system of drying *in vacuo*. To this criticism the reply has been made that any failure has been due, not to the system itself, but to the improper handling of the apparatus, as the formation of a watertight film on the surface of the rubber after the surface moisture has evaporated can be avoided, instead of preventing the evaporation of the moisture from the interior.

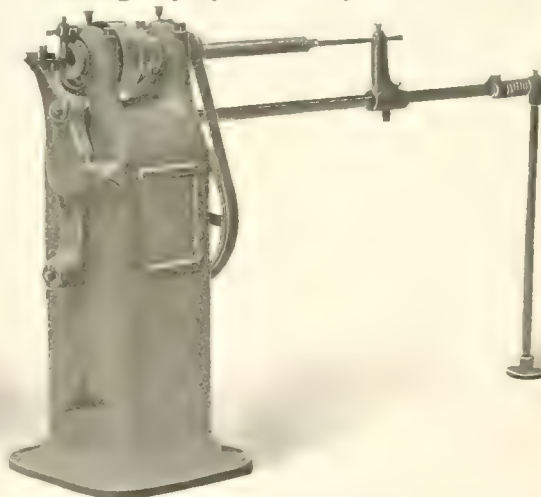
## POWER PUNCH FOR RUBBER NIPPLES.

THE problem of punching a hole in a rubber nipple would not seem at first one of much moment, as it could be very easily accomplished by a hollow needle on a standard and a mallet in the hands of a nimble fingered girl. When, however, it comes to punching a thousand gross of them, and it is figured that the ordinary rate of pay is 40 cents a hundred for punching, it is really worth consideration. The illustration shows a power machine that is very simple and that successfully and rapidly punches all sorts of nipples, even those made of pure gum. The machine as shown has a hollow die over which is hung a needle with an eight inch clearance between needle and die. The standard on which the needle is hung is attached to a thimble which revolves easily on a bolt attached to the revolving disc and when run up to speed the punch works noiselessly and with perfect accuracy. There is also a special arrangement in connection with the needle and die not shown in the illustration which goes far toward making the aperture in the rubber perfect. [Excelsior Machine Works, Akron, Ohio.]



## THE ADAMSON DISC CUTTER.

THE old time manner of cutting discs or rings was by the combination of a boy, a knife, and a lathe. The boy was apt to be slow, and even if he did his best it was almost impossible for him to cut a number of discs of exactly the same thickness. The next step in advance was, therefore, a machine capable of cutting rapidly, accurately, and automatically.



Quite a variety of such machines were designed and are to-day in use, some of them being but a slight advance over the old fashioned method. The machine shown in the accompanying illustration is designed to be the best for the purpose that can be made. It is capable of handling both hard and soft rubber discs of standard sizes and makes a perfectly clean cut, averaging 60 to 100 per minute, depending, of course, on the thickness of the stock. As will be seen, the machine is exceedingly simple in construction, easily operated; is automatic throughout and does the work with a surprisingly small amount of waste. [A. Adamson, Akron, Ohio.]



THREE OF THE FIVE TALLYHOS IN LINE.



ON THE PUTTING GREEN.

## OUTING OF THE NEW ENGLAND RUBBER CLUB.

THE Midsummer Outing of the New England Rubber Club, on July 14, occurred this year about two weeks earlier than usual, as it was believed that more of the members would be at home early in July than later in the month or early in August. Through the good offices of Mr. Arthur W. Stedman and Mr. F. C. Hood, the association became for the second time the guests of the Country Club at Brookline, Massachusetts. The choice was most enthusiastically approved by the majority of the rubber men, who appreciate fully what this magnificently equipped club offers in the way of beautiful surroundings, opportunities for athletic sports of all kinds, and a great hospitable mansion equipped with all creature comforts for a rallying place.

The feature of the day was the tallyho ride from the Hotel Touraine, in Boston, out Commonwealth avenue, through the beautiful park system comprising the Back Bay Fens, Jamaica-way, through the residence section of beautiful Brookline to the Country Club. There were five tallyhos in line, Mr. Wil-

liam J. Kelley, who suggested this feature, being in charge. On reaching their destination the visitors were greeted by the Lynn Cadet Band, which, from the broad verandas, discoursed popular music through the afternoon and evening.

The golf links, which are particularly fine, were at once put in use for the Handicap Medal Play Tournament. There were many entries, but on account of the rain, which came later, only the following made the full course of eighteen holes:

CLASS A.				CLASS B.			
	Gross.	icap.	Net.		Gross.	icap.	Net.
H. C. Mason....	88	10	78	E. H. Litch.....	103	2	101
F. C. Hood.....	92	0	92	Wm. Keyes.....	104	0	98
A. Johnson.....	93	0	93	A. L. Lindsey.....	107	4	103
John Abbott....	96	12	84	E. E. Wadbrook...	120	6	114
F. D. Balderston..	98	10	88	J. E. Page.....	129	4	125
C. M. Brett.....	100	6	94	W. J. Kelley.....	134	6	128
A. H. Brown.....	100	10	90				
W. E. Barker....	100	10	90				
W. I. Swasey....	107	10	97				
Frank Dane.....	126	12	114				



SNAP SHOT AT A GROUP OF OFFICERS.

Secretary PEARSON, Assistant Secretary WADBROOK, President A. H. V. TREASURE, WHITEMORE.



THE BASEBALL GAME.

[Showing the Catcher of the Rubber Company Association and his admirers.]



Although the rain drove most of the visitors, even the golfers, indoors at the first breaking of the clouds, the base ball game between the "Rubbers" and the "Rubouts" was immediately started. The two nines were made up as follows:

## RUBBERS.

Hood, 2b.  
Robinson, c.  
Barker, p.  
Pearson, 1b.  
Abbott, 3b.  
Paige, s.s.  
Capen, l.f.  
Mayo, r.f.  
Allen, c.f.

## RUBOUTS.

Payne, 2b.  
Kelley, c.  
Balderston, p.  
Greene, 1b.  
Palmer, 3b.  
Phipps, s.s.  
Brown, l.f.  
Higgins, r.f.  
Wood, c.f.

The Hon. L. D. Apsley, the president of the Club, was chosen as umpire and his rulings were among the most interesting features of the game. The playing of E. B. Pearson at first base, William J. Kelley's catching, and W. E. Barker's pitching also received special encomium. Very early in the game the rain began again, and at last with reluctance both spectators and players were driven to cover. According to the official score the game stood: Rubbers, 7; Rubouts, 1.

The remainder of the afternoon was spent in social converse, in playing pool and pingpong and in absorbing the fine music. At 7 o'clock all were assembled in the banquet hall and facing the beautifully decorated tables. The dinner was most excellent.

## MENU

Little Neck Clams	
Cream of Chicken a la Berg	
Salmon a la Bellevue	
Julienne Potatoes	Cucumbers
Sweetbreads Glacé à la Dumas	
Roast Filet of Beef, au Madaire	
Bermuda Potatoes	Green Peas
Punch	
Broiled Squab Chicken	
Salad	
Ice Cream and Cake	
Cheese	Crackers
Coffee	

During and between the courses the musically inclined in the Club sang popular songs oftentimes very successfully. During a hiatus in the singing President Apsley made a brief speech which he pointed with a story in a rich Hibernian brogue that delighted all hearers.

After the coffee W. E. Barker, as chairman of the sports committee, announced the prize winners, speaking very happily and drawing pleasant acknowledgments from those fortunate enough to be thus rewarded. The winners and prizes follow, the scores being found in the lines above.

## CLASS A.

H. C. Mason, best gross, cup.  
John Abbott, best net, cup.  
F. C. Hood, Second best gross, one dozen "Wizard" balls.  
F. D. Balderston, second best net, one dozen "Haskell" balls.

## CLASS B.

E. H. Litch, best gross, cup.  
William Keyes, best net, cup.  
A. L. Lindsey, second best gross, one dozen Saunders pneumatic balls.  
E. E. Wadbrook, second best net, one dozen "Stoughton" balls.

The only other prize given was for tennis which was won by Harold French.

After the prize giving there were brief speeches by ex Governor Bourn and others, after which, led by E. E. Wadbrook who is the possessor of a fine baritone voice, all present made the rafters ring with "America" and parted in high good humor.

## RECENT RUBBER PATENTS.

## THE UNITED STATES PATENT RECORD.

ISSUED JUNE 2, 1903.

- N**O. 729,534. Compression-coupling. Martin P. Boss, San Francisco, California.  
729,585. Foot support for bootblacks' stands [with rubber pad]. Frank Hodes, New York city.  
729,639. Baseball bat [with filling of rubber]. John F. McCoy, New Orleans, Louisiana.  
729,699. Marking stamp. Frank Test, Philadelphia, Pennsylvania.  
729,704. Wheel tire. Andrew D. VanAusdall, Oxford, Ohio.  
729,923. Rubber mat. William J. Ellis, Akron, Ohio.  
729,941. Hoof pad. William J. Kent, Brooklyn, New York, assignor to Revere Rubber Co.  
730,054. Syringe. John H. Sheets, New York city.  
730,073. Vehicle wheel. John M. Alderfer, Sharon Center, Ohio.  
730,117. Fountain pen. Robert A. Hamilton, Brooklyn, New York.  
730,126. Process of manufacturing composition for golf balls [Gutta-percha and Balata.] Robert Hutchinson, Prestwick, Scotland.  
730,127. Golf ball. Robert Hutchinson, Prestwick, Scotland.  
730,145. Safety tread for stairs. James A. McNamee, Cambridgeport, Massachusetts.  
730,171. Pouch. John A. Smithline, Burlington, Iowa.

## Trade Mark.

- 40,469. Elastic or cushion heels and soles for boots and shoes. Frank W. Whiteher, Boston, Massachusetts. *Essential feature*—The word "Waukon." Used since January 1, 1898.

ISSUED JUNE 9, 1903.

- 730,299. Device for grooving or tapping rubber or other sap yielding trees. Fayette S. Robinson, Boston, assignor to Ferdinand E. Borges, Brookline, Massachusetts.  
730,303. Golf ball. Alonzo D. Seaman, Milwaukee, Wisconsin.  
730,471. Glove. Francis McConnell, Chicago, Illinois.  
730,474. Pneumatic tire. Edwin B. Rayner, Piqua, Ohio.  
730,596. Syringe. Francis M. Baker, Fond du Lac, Wisconsin.  
730,628. Vehicle wheel. William Esty, Laconia, New Hampshire.  
730,638. Wheel tire. Daniel E. Griffiths, assignor to James B. Corey, both of Pittsburgh, Pennsylvania.  
730,720. Expansible piston. Edward Thomas, Fulton, Kentucky.  
730,783. Fountain pen. Oliver A. Morrow, Whitehall, Illinois.  
730,822. Rectal syringe. Henry M. Guild, Erie, Pennsylvania, assignor to Tyrrell's Hygienic Institute, New York city.

## Trade Mark.

- 40,575. Rubber horseshoes. Calumet Tire Rubber Co., Chicago, Illinois. *Essential feature*—The representation in profile of the head of an American Indian bearing a full head-gear of feathers and strips of fur and showing a shield and spear projecting from behind and forward of the face of the Indian. Used since July, 1901.

ISSUED JULY 14, 1903.

- 730,855. Horseshoe attachment. Everett L. Abbott, New York city.  
730,959. Ball. Kenyon V. Painter, Cleveland, Ohio.  
731,026. Playing ball. Charles B. Elliott, Riverside, Connecticut.  
731,049. Clothes wringer. Dickson Hall, Meadville, Pennsylvania.  
731,058. Life belt. Friedrich W. Kern, Antwerp, Belgium.  
731,154. Playing ball. Alson E. Barnhart, Chicago, Illinois.  
731,165. Foot ball. Albert Crossley, New Bedford, Massachusetts.  
731,201. Supporting bandage. Lee R. Miller and Emanuel T. Richert, Akron, Ohio.  
731,312. Hose coupling. Edgar J. Pace, Salem, Ohio, assignor of one-half to William G. Hard and Dora J. Hard, Salem, Ohio.  
731,314. Pneumatic life belt. John A. Malmqvist, Campello, Massachusetts.  
731,348. Hose coupling for pneumatic tires. Charles G. Eshelman, assignor of one half to Edwin S. Youse, both of Reading, Pennsylvania.  
731,354. Collapsible vessel for atmospheric motors. Weston M. Fulton, Knoxville, Tennessee.  
731,379. Pipe or hose coupling. Cary W. Martin, New York city.  
731,406. Ball. Kenyon V. Painter, Cleveland, Ohio.  
731,414. Horseshoe pad. Robert P. McDougall, Yonkers, New York.

ISSUED JUNE 23, 1903.

- 731,529. Hose nozzle. Everett H. White, assignor to Eaton, Coe & Burnham Co., both of Bridgeport, Connecticut.
- 731,614. Golf ball [comprising a non-responsive center consisting of strand rubber and gum, a hard rubber shell, and an outer covering of Gutta-percha]. Robert Reach and George B. Staples, Philadelphia.
- 731,616. Horseshoe [with rubber pad fitted to a channel on the tread side]. John Regan, New York city.
- 731,674. Dental plate and process of making same. Harry L. Fennell, Peoria, Illinois.
- 731,677. Rubber tire [solid, for vehicle wheels]. Christian Grote, Akron, Ohio.
- 731,709. Truss [the pad comprising an outer casing of yielding material, and an inner pneumatic bag, with inflating nozzle]. John Railton, Cheboygan, assignor to Ignatz Mayer, Detroit, Michigan.
- 731,821. Golf ball [having a center composed of vulcanized rubber combined with feathers, and a Gutta-percha shell]. Charles T. Thompson, Philadelphia.

ISSUED JUNE 30, 1903.

- 732,117. Fountain pen. Albert E. Schaaf, Toledo, Ohio.
- 732,199. Vehicle wheel tire. [An outer or supplemental steel tire, or rim, between which and the inner tire a series of rubber blocks is placed.] Samuel C. Lines, Curtice, Ohio.
- 732,209. Hose coupling. John P. Muehlebach, Kansas City, Missouri.
- 732,236. Hand stamp [comprising a head and a handle constructed of rubber and formed integral]. Eugene M. Tilden, Washington, D. C.
- 732,237. Rubber tire [provided in its base portion with grooves adapted to enclose T-heads of bolts projecting from the metallic tire and to seat on said metallic tire; longitudinal wires embedded in said rubber tire; and transverse wires likewise embedded]. Edward B. Tragler, Akron, Ohio.
- 732,278. Noiseless tire protector [involving a narrow annular leather band, to form the tread, and canvas strips to hold it in position]. Lincoln C. Cummings, Pasadena, California.
- 732,360. Seamless rubber glove. [Described on another page of this Journal.] Clarence A. Lindsay, New York city.
- 732,361. Hernia truss [with inflatable pad]. Heinrich Loewy, Berlin, Germany.
- 732,497. Hose coupling. William R. Amos, Saxton, Pennsylvania.
- 732,532. Ring guard. [Described on another page of this Journal.] Joseph Fallek, New York city.
- 732,583. Ball [comprising an inner core, a sphere of crude rubber retained under compression, and an outer shell of Gutta-percha]. Kenyon V. Painter, Cleveland, Ohio.
- 732,609. Protector and snow excluder for felt boots and overshoes therefor. Samuel W. Wehn and Charles W. Oler, Everett, Pennsylvania.
- 732,658. Rubber eraser. Frederick A. Schultz, Hasbrouck Heights, New Jersey, assignor to Mattson Rubber Co.

*Design Patent.*

- 36,397. Water bag. Edward E. Menges, New Haven, Connecticut, assignor to Seamless Rubber Co.

[NOTE.—Printed copies of specifications of United States patents may be ordered from THE INDIA RUBBER WORLD offices at 10 cents each, postpaid.]

## THE BRITISH PATENT RECORD.

[\* Denotes Applications from the United States.]

## APPLICATIONS—1903.

- 8,526. J. M. Leigh, Manchester. Tire for road vehicles. April 15.
- 8,520. E. B. Killen, Belfast. Pneumatic tire. April 15.
- 8,558. T. Houben, 33, Cannon street, London. Pneumatic tire for motors. April 15.
- 8,578. F. J. Webster, Mitcham, Surrey. Pneumatic tire. April 15.
- \*8,583. V. F. Feeny, 60, Victoria street, London. Toy balloon. (The Rubber Balloon Co. of America, New York.) April 15.
- 8,829. P. F. Woods, 18, Southampton buildings, London. Manufacture of golf balls. April 18.
- 9,228. G. Abati, Southampton buildings, London. Pneumatic tire. April 23.
- 9,225. J. Woodall, Bloomsbury, London. Inner tube for tires. April 23.

- 9,234. C. T. Kingzett, 24, Southampton buildings, London. Golf ball. April 23.
- 9,280. B. Astin, Manchester. Wringing machine. April 24.
- 9,282. W. Findlay, Glasgow. Pneumatic tire. April 24.
- 9,331. C. E. Bontwood and G. Browning, 18, Buckingham street, London. Golf ball. April 24.
- 9,358. C. R. Crombie, Victoria India Rubber Mills, Edinburgh. Process for repairing vulcanized rubber articles. April 25.
- 9,373. W. D. Sainsbury, Glasgow. Skid preventing device for rubber tires. April 25.
- 9,468. C. H. Wilkinson, 33, Chancery lane, London. Pneumatic tire. April 27.
- 9,506. L. C. Baker, Southampton buildings, London. Protector for pneumatic tires. April 27.
- 9,529. R. G. Hyndman-Caie, Liverpool. Elastic tire for vehicles. April 28.
- 9,733. J. T. Day, Finsbury, London. Protector for rubber tires. April 29.
- 9,864. E. O. Squires, St. Blazey, Cornwall. Zonnar non-slipping tire, pneumatic or solid. May 1.
- 9,882. J. Millar, Dundee. Linoleum composition. May 1.
- 9,891. G. E. Wells and The British Xylonite Co., Limited, London. Playing ball. May 1.
- 9,914. George Banhan & Co., Limited, and C. K. Sagar, Manchester. Impregnation of belts with Gutta-percha, Balata, and the like. May 2.
- 9,952. J. Muskett, Manchester. Means of securing pneumatic tires to rims. May 2.
- 9,960. S. Wood and Charles Macintosh & Co., Limited, Manchester. Suction hose. May 2.
- 10,059. L. Johnstone, Southampton buildings, London. Pneumatic tire and apparatus for the manufacture of the same. May 4.
- 10,076. T. S. Rose and T. N. Harwood, Uxbridge. Detachable pneumatic tire. May 4.
- 10,092. E. Giersberg, 60, Queen Victoria street, London. Hose coupling. May 4.
- 10,247. A. A. Wade, Leeds. Improvements in tires and tire repairing. May 6.
- 10,284. W. W. Tambs, Birmingham. Resilient tire. May 6.
- 10,292. E. Martin, Stoke Newington, London. Solid rubber tire. May 6.
- 10,300. A. C. Rampton, Kingston-on-Thames. Method of protecting pneumatic tires. May 6.
- 10,343. C. A. Burghard, Alderley Edge, Cheshire. Joining of India-rubber or Gutta-percha to leather. May 7.
- 10,422. F. W. Stephens, 322, High Holborn, London. Hose coupling. May 7.
- 10,439. T. Burgum, Canning Town, London. Elastic stocking. May 8.
- 10,510. L. M. Keizer, Southampton buildings, London. Rubber rings for bottle seals. May 8.
- 10,554. E. O. Mawson, West Ealing, London. Protection of tires for punctures. May 9.
- 10,636. R. Hutchison and R. F. Hutchison, Glasgow. Golf ball. May 11.
- 10,804. R. K. Evans, 70, Chancery lane, London. Pneumatic tire. May 12.
- 10,826. J. Coomber and others, Liverpool. Cushion tire. May 12.
- 10,888. J. Cockburn, Glasgow. Pneumatic tire for motors. May 13.
- 10,934. W. F. Williams, 53, Chancery lane, London. Elastic tire. May 13.
- 10,941. Christian H. Gray (India-rubber, Gutta-Percha and Telegraph Works Co., Limited) and T. Sloper, London. Improvements relating to rubbered cords. May 13.
- 10,943. Christian H. Gray and T. Sloper, London. Pneumatic tire. May 13.
- 10,968. A. E. Aldworth and T. A. Gooch, Kensal Rise, London. Tire for cycles and motors. May 14.
- 11,006. E. Ferry and J. T. E. Jones, Paddington, London. Cover for pneumatic tires for vehicles. May 14.
- 11,130. J. R. Rickard, Brentford. Supported pneumatic tire. May 15.
- 11,171. G. W. Dawes, Manchester. Golf ball. May 16.
- 11,206. A. G. Ryder and J. C. Wilmott, 322, High Holborn, London. May 16.
- 11,197. B. Hopkinson, Kensal rise, London. Rubber heel for boots. May 16.



- 11,294. C. E. R. Keddie, 62, Tulse Hill, London. Non-skidding tire for motors or cycles. May 18.
- 11,327. W. R. Marchant, and W. H. Chapman, Regent's park, London. Detachable metal flange for wheels having rubber tires. May 19.
- 11,329. W. Marchant, London. Twin tubes in pneumatic tires. May 19.
- 11,338. T. H. Slack, Alderley Edge, Cheshire. Detachable rubber heel for boots. May 19.
- 11,345. W. Scott, St. Jude's, Plymouth. Non-puncturing tire. May 19.
- 11,355. J. C. Robins, Edinburgh. Puncture closer for pneumatic tires. May 19.
- 11,489. M. Baerlin, Manchester. Outer cover for pneumatic tires. May 20.
- 11,516. E. E. E. Bailey, 60, Queen Victoria street, London. Golf ball. May 20.
- 11,520. L. E. Sachs, Southampton buildings, London. Rubber tire for vehicles. May 20.
- \*11,656. F. H. Richards, 19, Holborn viaduct, London. Golf ball. May 21.
- \*11,657. F. H. Richards, 19, Holborn viaduct, London. Playing ball. May 21.
- 11,651. Christian H. Gray and T. Sloper, London. Improvements relating to rubbered threads or fabrics. May 21.
- 11,674. J. Mitchell, Manchester. Inner tubes of pneumatic tires and other tubing. May 22.
- 11,785. M. McDaid, Glasgow. Machinery for winding rubber tape on the cores of golf balls. May 23.
- 11,803. R. W. Attwater, Preston. Rubber covered roller for printing fabrics. May 23.
- 11,848. C. W. Neville, Bedminster, Bristol. Rubber valve for tapping casks. May 25.
- 11,853. J. M. Heyman, Newcastle-on-Tyne. Method of inserting tires and other pneumatic articles with compressed air. May 25.
- 11,857. C. E. Theodosius, Maidenhead. The triple pneumatic tire. May 25.
- 11,988. A. Lafargue, and Steam Generators, Limited, 111, Hatton garden, London. Resilient tires for vehicles. May 26.
- 11,991. V. Pappenheim, 111, Hatton garden, London. Syringe. May 26.
- 12,029. J. Orrell, Liverpool. Pneumatic tire. May 26.
- 12,059. P. A. Martin, Birmingham. Golf ball and method of manufacture of the same. May 27.
- 12,066. C. D. Douglas, Glasgow. Rubber protector for boots. May 27.
- 12,179. C. E. Vaughan, 57, Chancery lane, London. Golf ball. May 28.
- 12,181. W. Borchers, Strand, London. Elastic vehicle wheel. May 28.
- 12,263. J. K. Willis, 139, Queen Victoria street, London. Golf ball. May 29.
- 12,305. A. Brown, 111, Hatton garden, London. Tire protector for vehicle wheels. May 29.

## PATENTS GRANTED.

[ABSTRACTED IN THE OFFICIAL JOURNAL, MAY 6, 1903.]

- 945 (1902). Detachable pneumatic tire [with means for protecting the air tubes]. A. J. I. Rath, Anerley, Surrey.
- 1,243 (1902). Solid rubber tire [fastened by pins passing through transverse holes in the tire and rim flange]. J. Shepherd, Davenport, Cheshire.
- 1,377 (1902). Rotary rubber heel pads for boots. D. A. Beyyer, Northampton.
- [ABSTRACTED IN THE OFFICIAL JOURNAL, MAY 13, 1903.]
- \*1626 (1902). Rubber horseshoes [with metal plates imbedded]. J. Hirsch, Kansas City, Missouri.
- \*1,643 (1902). Rubber vehicle tire [with soft rubber core]. Mrs. Mary E. Brooke, Denver, Colorado.
- \*1671 (1902). Hot water bag [with means of securing to the person]. H. H. Lake, Southampton buildings, London. (M. S. Williams, Boston, Massachusetts.)
- 1,714 (1902). Hose nozzle [with device for controlling the flow]. H. W. Pearson, Bristol.
- 1,809 (1902). Golf ball [Gutta-percha rod, softened in hot water, is formed by hand into a ball, which when sprinkled over with sulphur is rolled on a hot plate, so as to impregnate the outer part with the sulphur, thus producing a hard surface; the ball is finished in a mold in the usual way]. J. P. Cochrane, Edinburgh.

- 1,978 (1902). Rubber pad for leather legging [to prevent injury to the boot]. E. A. Fisher, Newport, Monmouthshire.

[ABSTRACTED IN THE OFFICIAL JOURNAL, MAY 6, 1903.]

- 2,232 (1902). Rubber heels for boots. E. A. Clapp, 10, Huxley street, Queen's court, London.
- 2,295 (1902). Pneumatic tire [with means for protecting the air tube]. E. Smith, Barnham Dean, Berkshire.
- \*2,302 (1902). Method of manufacture of golf balls. E. Kempshall, Boston, Massachusetts.
- \*2,383 (1902). Solid rubber tire for vehicles [with lateral ribs which engage under the intumed edges of the rim]. F. A. Seiberling, Akron, Ohio.
- 2,471 (1902). Pneumatic wheel [having an inflated tube interposed between the tire member and the hub member]. R. Harrison, Sligo, Ireland.

[ABSTRACTED IN THE OFFICIAL JOURNAL, MAY 27, 1903.]

- 2,562 (1902). Elastic tire [composed of a series of small metal springs within a rubber cover]. A. N. Ferguson, Sainte Cunegonde, Quebec.
- 2,577 (1902). Pneumatic tire valve. A. de Gingins, Chateau de Gingins (Vaud), Switzerland.
- 2,637 (1902). Hoof pad. J. Caws, Kersal, near Manchester.
- 2,729 (1902). Non-slipping pads for horseshoes. D. Thomas, Montague square, London.
- \*2,741 (1902). Pneumatic tire. J. F. Lober, Pittsburgh, Pennsylvania.

## THE GERMAN PATENT RECORD.

## PATENTS GRANTED.

- 143,898 (Class 70d). Music leaf turner in form of finger stall. J. Sieghold, Bremerhaven. June 24.

## DESIGN PATENTS [GEBRAUCHSMUSTER].

- 199,840 (Class 64c). Shipping and storage bung with perforated rubber disk over the bunghole, adapted for fermentative liquids, to prevent escape of the liquid without hindering the escape of gases. Frau C. Schniewindt, Neuenrade. June 4.
- 199,639 (Cl. 70d). Finger stall, with V shaped cut in front, forming two tongues. J. Andersen, Christiania. June 4.
- 199,841 (Cl. 71a). Shoe vamp or boot upper of rubber combined with some textile material. M. Urbahn, Hirschgraben. June 4.
- 199,842 (Cl. 71a). Shoe vamp of rubber combined with leather. M. Urbahn, Hirschgraben. June 4.
- 200,106 (Cl. 3a). Corset having body supports united by rubber inserts. G. Schmid, Coburg. June 10.
- 200,356 (Cl. 70d). Abdominal bandage having rubber inserts on one side and press button closures on the other, and rubber band for increasing the width. Emily Billeb, Hannover. June 10.
- 199,835 (Cl. 45f). Horseshoe with tightly fitting unperforated rubber bridge. H. Brohm, Mannheim. June 10.
- 200,677 (Cl. 17d). Cooling apparatus, having a woven hose coated with rubber. Frau Trapp, Kaiserslauten, Pfalz. June 17.
- 200,899 (Cl. 20d). Automatic fender for street cars [connecting with the pavement by means of a feathering rubber band. Strassen-Eisenbahn Gesellschaft in Hamburg. June 17.
- 200,909 (Cl. 47f). Appliance for caulking socket pipes, consisting of a rubber ring. H. Beinhauer, Bielefeld. June 17.
- 201,009 (Cl. 47f). Appliance for caulking socket pipes consisting of a rubber ring. H. Beinhauer, Bielefeld. June 17.
- 201,057 (Cl. 47f). Metal tubing with rubber shield on places exposed to wear. Dr. Heinrich Traun u. Söhne, Hamburg. June 17.
- 201,058 (Cl. 47f). Metal tubing with removable rubber protection inside. Dr. H. Traun u. Söhne, Hamburg. June 17.
- 201,515 (Cl. 3a). Rubber hose supporter with clasp and moveable slides. C. E. Schurig, Grossrohrsorf. June 24.

## APPLICATIONS.

- 19,047 (Cl. 63c). Hollow rubber tire containing solid core. W. F. Williams, London, England. June 10.
- 32,546 (Cl. 71a). Rubber shoe. C. P. Bohnke, Riga, Russia. June 10.

THE more one reads the South American newspapers, the less clear becomes the situation respecting the Acre, in dispute between Brazil and Bolivia. The United States minister to Brazil, however, reports to his government the extension until October 21 of the period for negotiating arrangements between the disputants for a settlement of the trouble.

## THE RUBBER TRADE IN AKRON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Judge A. R. Webber, in the common pleas court at Akron, on June 27, rendered a decision overruling the demurrer of the Diamond Rubber Co. to the suit for \$1995 damages brought against them by Peter Kiefer, a former employé, on February 10 last. [Details in THE INDIA RUBBER WORLD, March 1—page 210]. Kiefer averred that he had been discharged, after seven years employment by the company, without any reason being given therefor, and that when he afterward applied for work in other rubber factories in Akron, he found that he had been blacklisted for the reason that he belonged to a rubber workers' union. Attorneys for the defendant filed a demurrer to Kiefer's petition, based upon a decision by the supreme court of Ohio (in *Schaeffer v. New York, Chicago and St. Louis Railroad Co.*), holding that an employer could not be required to give a reason for discharging or refusing to employ any person. In his decision Judge Webber concedes the force of the precedent cited in the demurrer, so far as it relates to the right of an employer to discharge an employé without stating a reason therefor. But the judge holds that "employés have a legitimate right to organize unions for their mutual benefit," and that "employers have no right to enter into an agreement among themselves by which they agree with each other to discharge employés for the reason that such employés were, or are, in sympathy toward, or connected with such labor union." Therefore Kiefer will be permitted to submit proof of his charges.

\* \* \*

MR. H. S. FIRESTONE, general manager of the Firestone Tire and Rubber Co., on July 1 closed a contract with the Dunlop Tire Co., Limited, of Toronto, Canada, by which the latter company will manufacture and market the Firestone side-wire tire. The Dunlop company have long wanted a vehicle tire and for some time negotiations have been on, culminating in the Firestone company licensing the Dunlop company to manufacture the tire mentioned in Canada. One of the first moves of the Dunlop company after securing the privilege was to equip the tallyho at the King Edward hotel, in Toronto, with a set of the tires, as an advertisement.

\* \* \*

THERE seems to be no limit to the uses to which hard rubber can be put. New experiments are being made in the plants of the rubber companies in this city every day, and every little while something new is produced. Richard Mason, one of the American Hard Rubber Co.'s employés, has experimented a great deal with hard rubber, and recently decided that hard rubber pool balls would wear longer, and answer every purpose of the composition balls which are now in general use. Accordingly he manufactured a set of them and they are now in use in a pool and billiard room here. Apparently they are every bit as "lively" as the ordinary pool ball, and experts who at first play with them can hardly be made believe that they are rubber. Along this line the experiments which have been made the past winter in this city with hard rubber bowling balls are interesting. Joseph Dangel, superintendent of the plant of the American Hard Rubber Co., is an enthusiastic bowler, and he resolved one day to try to turn out a rubber ball which would answer the purpose of the *lignum vitæ* balls. He experimented a long time before getting a compound to suit him, but finally turned out a satisfactory ball. He used it a number of times and found that it was every bit as good as the *lignum vitæ* balls. Since then he has made a number of

them for his friends and they have been tried under all kinds of conditions. They do not crack or chip as do the *lignum vitæ* balls, and when bowlers once get accustomed to them they will use no other. They are made in red and black rubber, and but for their cost may prevent them from soon supplanting the wooden balls. The rubber balls as yet cannot be manufactured for less than \$18, while a wooden one can be secured at a cost not to exceed \$5.

\* \* \*

At last it seems probable that Colonel George T. Perkins, president of The B. F. Goodrich Co., will be able to give to Akron the fine park of 60 acres which he has been trying to donate to the city for the past two years. One condition is attached to the gift, and so far this has been the cause of all the trouble. Colonel Perkins made it obligatory upon the part of the city to construct and maintain a macadamized road through the park, and as this could not be done for less than \$20,000, the city has been backward in accepting the gift. Twice it has been voted upon, and each time the proposition lost. Colonel Perkins good naturedly held open his original offer, and now the provisions of the new municipal code are such that it will be possible for the city council to accept the gift and arrange for the construction of the road without asking the consent of the taxpayers. At a recent meeting of the council the matter was taken up and referred to the proper committee.

\* \* \*

THE employés of The B. F. Goodrich Co. have formed a cricket club, and it is the intention of the players to make it one of the most popular athletic clubs in the city. Mr. George W. Daum is one of the prime movers in the new club. The Blue Pond park grounds have been leased and the club practices twice a week. The base ball team of The B. F. Goodrich Co. have won every game played there for this season. Their defeat of the Postoffice team was a surprise, as the letter carriers were considered invincible.

One of the most enjoyable of the many Fourth of July exhibitions of fireworks in this city was that of Colonel George T. Perkins, president of Goodrich company, given at the home of his son-in-law, Mr. C. B. Raymond, manager of the local factory of the American Hard Rubber Co. Mr. Raymond has just completed one of the finest residences in the city, and the celebration was partly of the nature of a house warming. Several hundred people enjoyed the display of fireworks and the hospitality of Mr. and Mrs. Raymond.

The annual picnic of the employés of the Goodyear Tire and Rubber Co. and the Buckeye Rubber Co., was held at Silver Lake on June 27: Over 1000 persons were present, and the day was very enjoyably spent. A ball game between the foremen of the two factories and a team picked from the employés resulted in a victory for the latter by a score of 6 to 4. O. Smith won the boat race.

The B. F. Goodrich Co. are building an addition to their machine shop on Falor street. It is to be of brick, one story in height, and, while not large, will make their machine department more convenient.

The Hon. George W. Crouse, one of the pioneers in the rubber business in Akron, has been adjudicated a bankrupt by Judge Francis J. Wing, at Cleveland. This marks the end of the troubles which grew out of the failure of The Aultman, Miller & Co., of which Mr. Crouse was president, and upon whose paper he is an endorser to the extent of \$1,883,734.04. Mr. Crouse's liabilities are given as \$1,950,238.06, and his assets, \$218,746.67. On Friday, June 26, Judge W. A. Vincent, of Chicago, paid to the trustees of The Aultman, Miller & Co. \$640,000 in cash for the plant and other assets of the company.



Judge Vincent announces that the plant will be operated as it has been in the past.

Mr. Burton Foster Stauffer, foreman of the specialty department of The B. F. Goodrich Co., and Miss Minnie Adele Johnson, daughter of Mr. and Mrs. A. H. Johnson, of Akron, were married on June 30.

Word has been received here of the sudden death in Bridgeport, Connecticut, of Mr. John H. Campbell, a former well known lawyer of this city. Three of Mr. Campbell's sons are connected with the rubber trade, Charles E. being secretary of the Camp Rubber Co., of Ashland; Harry E., superintendent of the Republic Rubber Co., of Youngstown, and Arthur E., with The B. F. Goodrich Co., of this city. Mr. Campbell died of heart disease at the age of 54 years.

The employes of The Whitman and Barnes Manufacturing Co. held their annual outing on July 11 at Conneaut Lake, Pa., and a large crowd enjoyed the many forms of amusement at the lake. A special train carried the excursionists to and from the lake. A program of athletic events added to the pleasures of the day, one of the features being a ball game between the shop teams, "Harmonics" and "Popularics."

W. L. Wild, of this city, secretary and treasurer of the India Rubber Co., has spent a good deal of time lately in New Brunswick, New Jersey, in connection with the plans of the Rubber Goods Manufacturing Co. to open a factory at that place, as reported in the last INDIA RUBBER WORLD. It is expected here that Mr. Wild will become secretary of the India Rubber Co. of New Jersey, and A. L. Dickinson, assistant treasurer of the local company, may assume a like position with the new. The local office will remain open for several months yet, as there is a great deal of business to be taken care of before it is finally closed. The employes in the factory here found no trouble, after the fire, in obtaining employment in other factories. Much of the machinery, which remained uninjured, has been shipped to the Hartford factory of the Rubber Goods Manufacturing Co. and a large Corliss engine has been sold to parties outside of the rubber trade.

Mr. C. C. Goodrich, of The B. F. Goodrich Co., is an enthusiastic golfer, and in the club tournament at the Portage Golf Club greens July 4 made a record which has never been equaled on the local course. In the driving contest for a silver cup presented by Mr. W. B. Miller, secretary of The Diamond Rubber Co., Mr. Goodrich made a score of 48.

The Goodyear Tire and Rubber Co. have filed a suit in the common pleas court here against the Consolidated Rubber Tire Co., in which it asks damages to the amount of \$26,902.13, with interest. It is alleged that the defendant company are guilty of a breach of contract entered into by the two companies July 27, 1899, whereby the Goodyear company were to be reimbursed for any loss, damage, or expense incurred, due to any suit which the Consolidated company might bring against any parties with whom the Goodyear company had contracts. The complainants allege that they have been put to the expense of \$26,902.13 on account of suits brought against Sam E. Finney, of Atlanta, Georgia, and others for alleged infringement of patents, and that payment has been demanded and that the Consolidated company have refused to make it.

The tile used in the construction of the new Akron City Hospital was donated by Mr. H. B. Camp, who made a fortune in the clay industry before becoming identified with the rubber business through the Faultless Rubber Co. and the Camp Rubber Co., of which latter he is president. Mr. Camp is still interested in a tile factory, and it has become known through an accident that he supplied \$10,000 worth of tile free of charge for the hospital.

John E. Joseph has resigned his position with The B. F. Goodrich Co. to accept the management of the Union Rubber Co.'s store here.

James W. Hoffert, assignee of the People's Hard Rubber Co., Akron, has filed a schedule of the assets and liabilities of the company in the probate court here. It shows that the assets and liabilities have been purchased by Fritz Achellis, president of the American Hard Rubber Co., and that he is the only creditor of the company. The total liabilities amount to \$191,753 07.

Messrs. T. W. Miller, of the Faultless Rubber Co., Harry C. Miller, formerly of the Union Rubber Co., and Mr. Wolff, purchasing agent of The B. F. Goodrich Co., are all interested in a delightful little fishing camp situated on a beautiful lake not far from Akron, Ohio.

Although the mammoth building, which was the last addition to the plant of The B. F. Goodrich Co., gave one-third more floor space than heretofore, all of it is already utilized and several departments are clamoring for more room.

It is rumored that the plant of the late Peoples Hard Rubber Co. (Akron, Ohio) is to be utilized as an automobile factory.

## THE RUBBER TRADE IN TRENTON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Extensive improvements to be completed early in August are in progress at the plant of the Trenton Rubber Manufacturing Co. A complete fire fighting system is an important feature of the improvements. This consists first of a sunken brick and concrete reservoir 30 × 20 feet and 9 feet deep, placed near the main building, with a water capacity of 125,000 gallons.

Then 8-inch fire mains are being laid around the yard and through the works, and attached to these will be seven two-way fire hydrants placed at advantageous points. A high water pressure will be provided by a underwriters' fire pump of a capacity of 1000 gallons a minute. The system is being installed by the General Fire Extinguisher Co. (Philadelphia). As soon as this is completed, it is the intention of the company to organize the employes into a fire brigade. The men will be kept thoroughly drilled in the work of operating the system quickly. The threads on the hydrants and hose couplings are of the standard pattern used by the Trenton fire department, so that in case of a serious fire the factory brigade can instantly be reinforced by the city department. The company are also installing a new hydraulic three platen press, 25 feet by 50 inches. It was built to the company's order by the Farrell Foundry & Machine Co. (Ansonia, Conn.) The new press was made necessary by the rapid growth of the company's business in packings and pure gum goods. The company reports the past year's business as the most prosperous in their history. The increase has also made necessary the installing of new hose machines, mills, jar ring lathes, small hydraulic presses for light work and additional facilities for the manufacture of corrugated matting and mats. The plant is now one of the best equipped in the city.

The Hamilton Rubber Manufacturing Co. are having an artesian well sunk in the rear of their works on North Clinton avenue. The work is being done by the Rust Well and Machine Co. (Ithaca, N. Y.) and it is the intention to drive to a depth of about 400 feet. The well is expected to produce from 150 to 200 gallons a minute. The company expect to draw their entire water supply from this well. At a depth of 7 feet below the surface the drillers struck solid rock, and at this

writing (at a depth of 80 feet) the rock is still being encountered.

A new three story, 30×60 feet, brick addition to the factory of the Crescent Belting and Packing Co. is completed and the machinery is being placed in position. The first floor will be a machine shop, equipped with lathes, drills, planers, shapers, and other machines to enable the company to do their own repair and other machine work. The second floor will be equipped with new spoolers and skeiners, for the insulated wire department. The company report the best six months' business in their history. The orders indicate a busy month for August, with no shutdown.

The manufacture of rubber carriage cloth is developing into one of the most important branches of Trenton's rubber industry. This branch of the business was established some years ago by the Empire Rubber Manufacturing Co., and the concern has built up a large trade in this line. The new Eureka Rubber Manufacturing Co. of Trenton have gone into the field and are turning out a high grade, for which there is a steadily increasing demand.

The Union Rubber Co. now have eleven salesmen on the road, covering the whole country to the Pacific coast. The company have established western headquarters with the Carriage Supply Co. at No. 856 West Sixth street, Cincinnati. A handsome oak sample case has been added to the offices in the Broad Street Bank building, Trenton.

Mr. H. E. Evans, manager of the Consolidated Rubber Co., spent his annual vacation at Atlantic City, where he attended the session of the national senate of the National Union, of which order he is chaplain.

The Lambertville Rubber Co. have resumed operations after a two weeks' shutdown, during which the inventory was taken and necessary repairs made, including the placing of new tubes in the boilers.

L. S. Stout, aged 35 years, an employé of the Grieb Rubber Co., was painfully burned while at work in the mill, by a cauldron of rubber cement mixture boiling over on him, but will suffer no permanent injury.

The De Laski & Thropp Circular Woven Tire Co., mentioned in this column last month, have elected officers as follows: John E. Thropp, Jr., president; Frank W. Thropp, vice president; Peter D. Thropp, secretary and treasurer. Albert De Laski and Peter Thropp were in the West during the month in the interest of the company. Experiments with Mr. De Laski's invention for weaving automobile and other tires are still in progress at the works of the John E. Thropp Sons Co. The company's plans for a factory are not yet complete.

The Reliance Rubber Manufacturing Co. have practically all their machinery installed, have begun grinding rubber, and expect to be making goods by August 1. At first their work will be confined mainly to molded goods and tubing, the latter of a grade developed by superintendent Charles H. Joslin when he was employed at the Globe works. Having been organized so late in the season, they will postpone entering the hose trade until another year.

The Eureka Rubber Manufacturing Co. of Trenton report that business is opening with them in a satisfactory manner, particularly in rubber carriage cloth. Two new mills, 18×50 inches, from the Farrel foundry, have just been added, and a new two roll washer ordered. Seven presses are in operation in the molded goods department, and several large orders have been booked. Good orders for their "Admiral" brand of cotton hose have been received from Chicago. Molds are being made for a line of horseshoe pads.

The Woven Steel Hose and Cable Co. have secured larger

and better quarters at No. 226 South Warren street. Organized four years ago, this concern has built up a large trade in its specialty of steel armored hose, and is now developing as a selling agency for a general line of mechanical rubber goods. The president of the company is John S. Broughton, who is also secretary and general manager of the United and Globe Rubber Manufacturing Cos. The vice president is John H. Jäneway, of the John A. Roebling's Sons Co.; Karl G. Roebling is treasurer, and J. R. Kelso, manager. The process of armor-ing the hose is the invention of Mr. Roebling, who also designed the machine for applying the armor.

On July 22 lightning struck the building of the Raymond Rubber Co., at Titusville, damaging the office portion somewhat and severely shocking Messrs. George and Robert Agnew.

Steps have been taken by the Trenton rubber workers' union to formulate a new wage scale and inaugurate an apprentice system. A committee composed of five men from each factory are working on a plan to be submitted shortly to the manufacturers. The Rubber Manufacturers' Association of Trenton have posted notices in the factories promising protection to non union employes.

The Pennsylvania Railroad Co. have purchased a large tract of land east of Trenton for their new shops, which includes a portion of the farm of Allan Magowan, Trenton's pioneer rubber worker, and on which is located the works of the Modern Rubber Manufacturing Co., composed of Mr. Magowan and members of his family. The removal of the rubber works thus becomes necessary and to provide for this Mr. Magowan retained a strip of his land on the side adjoining the premises of the Trenton Rubber Manufacturing Co. The factory buildings are of frame construction and will be moved bodily, as will also Mr. Magowan's residence.

At the annual meeting of the Grieb Rubber Co., on July 1, the officers were reelected, as follows: William G. Grieb, president; C. H. Oakley, vice president and general manager; Harry Grieb, secretary and treasurer. George E. Leslie was reappointed sales manager. Messrs. Oakley and Leslie report trade good, with sales increasing. The company have installed an electric lighting plant with a 30 H.P. engine and direct connected dynamo, which will furnish power also for several motors for operating light machinery. The company put into operation on July 20 a cement department, in a separate building, in which electric power will be used. The company have built a 60×12 foot extension to their boiler house, and are putting up a one story warehouse and packing room, 100×40 feet.

## IN THE WILDS OF MEXICO.

FROM THE INDIA RUBBER JOURNAL (LONDON).

MR. PEARSON, the editor of our contemporary, who has been journeying through Mexico in order to satisfy himself as regards crude rubber planting, contributes to his journal an entertaining narrative of the expedition. Altogether apart from the technical value of the article, his description of the tour is as entertaining a piece of reading as one could wish for, being full of humor and of insight into the quaint habits of the natives. Mr. Pearson records that his first ride on horseback was more in the nature of an experiment than anything else, and that on the second day, when they started out to visit the neighbors, he wanted to walk. That being out of the question, however, he had to mount a mare which had the habit of imagining she saw a snake ahead on the trail, and of suddenly leaping to one side. He stayed with her every time, and is still just as much surprised at it as she was.



## THE TEXTILE GOODS MARKET.

THE staple cotton market continues to be jostled about on the horns of the bulls in the pit, who appear to have such control of the spot cotton of the country, that they can manipulate the near by options with ease and complacency. This fact has been demonstrated a great many times during the past month, when, although the trading was generally dull, the market maintained its firmness, with surprising tenacity at times. The latter months displayed a tendency to drag because of the favorable crop news, but even such options have not been able to keep out of the clutches of the bulls. About a week ago the market took on a slightly stronger tone, and prices went soaring, although without any cause to support the movement other than the orders of the bull clique, until middling upland spot touched 13.50, where it still remains. Under conditions of this kind it is exceedingly difficult to forecast the future, and most of the traders are moving very cautiously, while speculators on the outside are holding off entirely.

Domestic spinners have given very little support in the way of buying cotton, and their takings have been next to *nil*, although consumers on the other side of the Atlantic are reported to be showing more interest in spots. Rather than buy at present prices the American manufacturers have been curtailing their production in every possible way. Those that have any cotton at all have been working their machinery on part time in order to make it hold out until the new crop materializes. Those who have exhausted their supplies have in most instances, closed their mills, as the only alternative under the circumstances. Some of them, having run short of cotton before completing their contracts, have paid as high as 16 cents for a sufficient quantity to carry them through, and quite a number have bought cotton at 14 cents. One large mill is known to have covered its necessary requirements at 16 cents. Of course there is no intention on the part of the owners of these mills to increase their output until consumers show a desire to pay a sufficient price for goods to allow the manufacturers a fair profit on their product. The manufacturer cares little what may be the cost of cotton if the market will settle down to a basis that can be depended upon to remain stationary for a few months. In such a case they would buy cotton and make goods for which the consuming public would be compelled to pay the price asked, but this course cannot be pursued when the price of cotton is likely to drop as soon as the mills have covered themselves. Manufacturers that have closed their mills and those that contemplate doing so are compelled to take this course because they failed to appreciate the cotton situation in time, and have not been able to secure the grade of cotton which their machinery requires. Other mills, as fast as they exhaust their stock, will be compelled to stop for the same reason. It is simply and purely a cotton famine.

The following table gives the price of cotton middling upland spots at the ports of New York, New Orleans and Liverpool:

	New York	New Orleans.	Liverpool.
July 7.....	11 60c.	13 50c.	6 30c.
July 14.....	12 20c.	12 50c.	6 20c.
July 21.....	12 75c.	12 75c.	6 10c.
July 28.....	13 50c.	13 50c.	6 60c.

That the rubber trade will be compelled to pay a much higher price for its textiles during the next year, seems now beyond a doubt, and the manner in which they have been making requisitions on the cotton duck manufacturers during the past few weeks shows that no one knows this fact better than the rubber people themselves. Last September, when the rubber manufacturers were placing their orders with the duck mills for

enough goods to carry them through the year, they made the maximum limit much higher than ever before. There were two reasons for this course. The rubber people anticipated a larger demand for their goods in the first place, and furthermore there was nothing to be lost by raising the maximum limit, so long as they would not be compelled to take the goods in case they did not require them.

Whether or not they have needed all the cotton duck that was ordered, matters very little; they have taken all the duck mills could deliver up to date, and are eagerly pressing the mills for the remainder of their order—that is, all their contracts call for. Rubber manufacturers who have been buying as their requirements dictated, have had to pay in some cases 5 cents per pound more for textiles than they did the year before. By September 1, they will be in the market looking after their supplies for another year, and it is not news to the rubber people to announce that contracts will be made on a much higher price basis. If they can cover their year's needs at a lesser advance than 5 cents over old contract prices, congratulations are in order, and the organization that neglects to make a contract for the entire year, hoping to get his cloth cheaper later in the season, will be assuming great chances. He may get through the year by buying in a hand to mouth fashion without paying any more than the fellow who makes a year's contract, but if he does it will be because the bottom has fallen out of the cotton market before the manufacturers cover their raw material requirements, which is extremely unlikely. Some of the cotton duck mills have already run out of cotton, but they are meeting their contracts, which is as much as they can do.

It has been hinted in the textile market that contracts with the belting and mechanical rubber manufacturers will be made on an entirely different basis another year. From this, it is inferred that the cloth manufacturers will ask the rubber people to assume more of the responsibility than has been the case in the past. The former look upon the old fashioned contract as no contract at all so far as protecting themselves is concerned, and hereafter they are going to ask the consumers to help carry whatever burdens develop during the season.

Prices of the various textiles used by the rubber trade have not altered during July, but the market is exceptionally firm on the basis of the following quotations:

## FABRICS FOR THE RUBBER TRADE.

Forty-inch Majestic C. C. ....	7 1/4 cents.
Forty-inch Majestic B. B. ....	6 3/4 cents.
Forty-inch Majestic B. B. ....	6 1/2 cents.
Forty inch, Elcaney. ....	5 1/2 cents.
Thirty-six inch, India. ....	6 cents.
<i>Sheetings.</i>	
40" Highgate. .... 5 1/4 c.	40" Selkirk. .... 7 1/4 c.
40" Hightown. .... 6 1/4 c.	40" Sellow. .... 7 1/2 c.
40" Hobart. .... 6 1/2 c.	48" Mohawk. .... 10 c.
40" Kingstons. .... 7 1/2 c.	40" Marcus. .... 5 c.
39" Stonyhurst. .... 5 1/4 c.	40" Mallory. .... 5 c.
39" Sorosis. .... 5 c.	36" Capstans. .... 4 c.
40" Seefeld. .... 7 1/2 c.	40" Iroquois. .... 8 1/2 c.
	40" Shamrock. .... 8 1/2 c.
<i>Ducks.</i>	
	40" 7 oz. Cranford. .... 8 c.
	40" 8 oz. Chartres. .... 8 1/2 c.
	40" 10 oz. Carew. .... 10 1/2 c.
	40" 11 oz. Carita. .... 11 1/4 c.

The demand from the rubber boot and shoe manufacturers for sheeting has been of an average character all through the month of July. Those buying at the present time are paying no more money for their goods than they did during the fore part of the month, but prices are very firm and in every instance the full quotation has been paid. The market has not superabundance of sheetings on hand, and with the curtailment going on at the mill end, the tone of the market for cloth is naturally strong. Deliveries are being made to the satisfaction of the consumers so far as known, and the outlook for business from the rubber footwear makers is all that the textile manufacturers could ask for.

## NEWS OF THE AMERICAN RUBBER TRADE.

## BOSTON GOSSAMER RUBBER CO. LIQUIDATING.

THE following letter which was sent out to customers of the Boston Gossamer Rubber Co. was received with much surprise and a great deal of regret. The reason for the liquidation of the company as stated in the letter is the sudden illness of Mr. S. Klous, who was taken with a hemorrhage of the nose and came very near bleeding to death. Physicians, claim that in reality the hemorrhage in all probability prevented a paralytic shock and was, therefore, a blessing in disguise.

THE BOSTON GOSSAMER RUBBER CO.,  
S. KLOUS & Co.

*Manufacturers of Rubber Clothing.*

H. & P. O., M. B. V. 11

Gentlemen: We deeply regret to be obliged to inform you that owing to the recent sudden and serious illness of our Mr. S. Klous, it has become necessary that he retire from all active business, and in consequence of this and the further fact that our Mr. H. D. Klous's health at the present time renders it imprudent for him to undertake to carry on our business, we have decided to liquidate at once, and trust that this action will put you to no inconvenience.

We wish to thank you for the very pleasant relations that have existed between us, and wish you the greatest possible success for the future.  
Yours very truly,

THE BOSTON GOSSAMER RUBBER CO.

Mr. Klous long has been one of the most interesting figures in the rubber clothing trade, and has been universally respected and loved. He was born 81 years ago in Breslau, Prussia, and when 16 years of age was foreman of a factory in Berlin with 60 men under him. He came to the United States when he was 20 years old and after a time went into the hat, cap, and fur business. He followed this until the great Boston fire in 1872, at which time he was not only the largest manufacturer and dealer in his line, but he was also an exceedingly wealthy man, owning much real estate in and about Summer street. The fire affected his business so disastrously that he was obliged to make a fresh start. Indeed, it was said that of all the business men in Boston he was the largest individual loser. He therefore started, in 1888, a small proofing plant at Readville, and a making-up department in Boston, the line of manufacture being gossamer rubber garments. In 1890 he built a fine plant at Hyde Park and induced his son, Mr. H. D. Klous, to join with him in the business. The company although known as the "Boston Gossamer Rubber Co." was never incorporated, as it was a partnership, the partners being father and son, and operating under the name of "S. Klous & Co." After there ceased to be a market for gossamer rubber goods Mr. Klous took up the manufacture of a full line of mackintosh clothing and was for years undoubtedly the largest manufacturer in that line in the United States.

In the process of liquidation the factory and some twenty acres of real estate will be sold and Mr. H. D. Klous will devote himself to the care of his father's properties, which are large.

## ASSIGNMENT OF THE CABLE RUBBER CO.

THE Cable Rubber Co. (Jamaica Plain, Mass.) made a voluntary assignment on July 15, the assignees being B. L. M. Tower, representing the Cable interests, and Frank Tent, of the Hamilton National Bank (Boston), representing the creditors. The news of the assignment came as a great surprise to the trade. The Cable Rubber Co. was founded in 1881 by Wheeler Cable, who was accounted one of the most skillful rubber men of his day. The line of manufacture was carriage drills, melodeon

cloth, heavy clothing, etc. Since the death of Wheeler Cable in January, 1899, the company has been operated by William J. Cable, and S. H. Cable, the former being the treasurer and sales manager, and the latter superintendent. Nearly all of the stock was held in family, Mr. William J. Cable being the largest individual owner. The embarrassment was due to large contracts for carriage cloth taken when supplies were at a lower figure, the advance in rubber and in cotton duck causing the business to show a loss. As there are many orders on hand, it is thought that after a temporary suspension the business will be resumed.

## HOUSATONIC RUBBER WORKS (BRIDGEPORT, CONN.).

A CONTRACT has been awarded for the erection of an additional building, 155×40 feet, part brick and part frame. Mr. J. A. Wilson, proprietor, informs THE INDIA RUBBER WORLD that the new facilities in prospect will permit the present capacity of the works to be more than doubled. The business of this establishment is the removal of cloth and fiber from waste rubber.

## HARTFORD RUBBER WORKS CO.—FACTORY EXTENSION.

WORK has been begun on an extensive addition to the factory of this company and will be hurried through for completion at the earliest possible date. The building of this addition had been contemplated for several months, but it has now become a positive necessity on account of the increase of their business, and particularly that portion pertaining to the manufacture of pneumatic automobile tires and solid carriage tires. The new building will occupy a space of about 100×200 feet, being of brick construction and brownstone trimmings, somewhat similar to the present main building of the company's plant. It will consist of 3½ stories and basement and subbasement. Its architectural design is a pleasing one, a tower in the center affording a change from the ordinary factory construction. The company are also about to double their power plant by installing a new 1000 HP. steam engine.

## THE CANADIAN RUBBER CO. OF MONTREAL.

PLANS were submitted recently, at a special meeting of shareholders, for the extensive remodeling of the plant of this company, which plans were approved, and the directors empowered to make an issue of bonds to provide the necessary additional capital. The plans have not been worked out in detail, but THE INDIA RUBBER WORLD is advised by an official of the company that the idea is to double the capacity of both the mechanical goods and the boot and shoe departments. The machinery to be added is to be of the latest improved types, and in its installation a partial re-arrangement of the existing factory plans will be necessary.

## FAILURE OF LAMKIN &amp; FOSTER (BOSTON).

LAMKIN & FOSTER, shoe jobbers, No. 172 Congress street, Boston, have been petitioned into bankruptcy, the petition not being opposed by the firm. The firm was organized in 1873 by the late William C. Lamkin (who died in 1890) and Alfred S. Foster, who recently has been only a general partner. For several years, up to January 1, last, the firm were exclusive New England agents for the footwear of the Goodyear's India Rubber Glove Manufacturing Co., but since then several other houses have been admitted to the sale of these goods. Prior to the proceedings mentioned above, attachments were levied against the firm to a large amount, the United States Rubber Co.'s claim being reported at \$150,000. Two Boston banks are



large creditors, and many notes to other parties are well scattered. Liabilities are stated at about \$677,000 and the assets \$626,000. The last statement of capital was \$295,000, and the amount of sales \$1,600,000. Lewis T. Bartlett and Elias W. Lavers have been appointed receivers, by the United States court. At a meeting of creditors on July 8, Mr. Foster stated that the firm's finances for 23 years past had been looked after by E. E. Leavitt, a member of the firm, in whom the others had full confidence. The first knowledge of the firm's embarrassed condition came after the disappearance of Mr. Leavitt, upon an examination of the books. The creditors appointed a committee to act in their behalf, consisting of John McNair, a Lynn bank president (chairman); C. M. Brett, C. S. Fuller, and I. L. Prouty, shoe manufacturers; and George P. Eustis, representing the United States Rubber Co.

#### MODEL RUBBER CO.'S PLANT TO BE USED.

A COMPANY has been organized, under the style of Brindle Brothers, to manufacture elastic webbing, feather edge tapes in cotton and silk, and all kinds of narrow fabrics, in the plant occupied by the late Model Rubber Co., in Oak street, Woonsocket, Rhode Island. Robert Brindle is president and treasurer and Thomas Brindle general manager. The factory buildings have not been used since the end of 1901, and were disposed of at public sale on August 21, 1902, to Fred L. Smith.

#### TERRENCE M'CARTY TO MAKE RUBBER SHOES?

IN reply to an inquiry Terrence McCarty, of Bristol, Rhode Island, informs THE INDIA RUBBER WORLD: "I am just breaking ground to set up my engine and dynamo and have purchased some rubber machinery. My plans, however, are not yet perfected, but I assure you that I shall be pleased to give you full particulars as soon as there is anything for publication." Mr. McCarty, after having been connected with the National India Rubber Co., organized the Byfield Rubber Co. at Bristol and was superintendent of its factory so long as the company continued in business. In the summer of 1900 Mr. McCarty purchased land adjoining the Byfield factory and erected a building on it, which he still owns and will utilize in his new industry. It is understood in Bristol that the product is to be rubber footwear.

#### ALDEN RUBBER CO.—NEW YORK BRANCH.

THE Alden Rubber Co. (Barberton, Ohio) have opened a branch store in New York at No. 111 Chambers street, which has been placed in charge of Mr. C. J. McDaniel, whose experience in the Eastern states, in connection with leading rubber companies, has equipped him admirably for the sale of the specialties which he is now marketing for the Alden company.

#### THE POPE MANUFACTURING CO.

THE complete organization is now reported of this company, headed by Colonel Albert A. Pope, as mentioned already in these pages. The official list follows:

*Directors*—William A. Read, Colgate Hoyt, F. S. Smithers, G. F. Crane, Alfred L. Pope—all of New York; Albert A. Pope and Charles Hayden, Boston; Colonel George Pope, Orange, New Jersey; S. C. Winslow, Worcester, Mass.; G. T. Hollister, Rutherford, N. J.

*Vice President*—ALBERT A. POPE.

*Treasurer*—ALBERT L. POPE.

*General Manager*—PAUL WALTON.

On the evening of July 3 a reception was tendered to Colonel Albert Pope at Hartford, Connecticut, by the Business Men's Association of that city, and attended by the Governor and leading citizens. In addressing the guests, Colonel Pope spoke hopefully of the future of the bicycle trade, though the success of his company would not depend upon that alone. They will also make automobiles. "The automobile," said he, "is as

much bigger than the bicycle as it weighs more than the bicycle," and a new model was being worked out to be made at the Columbia factory, in Hartford. They would introduce other features, also; a contract had been signed for the manufacture of an improved cash register, for example, and Colonel Pope predicted that there would be work enough for all the factories taken over from the American Bicycle Co.

#### APSLEY RUBBER CO. (HUDSON, MASS.)

THE annual statement of condition (May 4, 1903), filed with the Massachusetts commissioner of corporations, gives the following details:

ASSETS.		LIABILITIES.	
Real estate.....	\$164,627	Capital stock.....	\$450,000
Machinery.....	158,208	Debts.....	454,027
Cash and debts receivable	381,083	Profit and loss.....	60,558
Stock in process.....	236,827		
Patents, trade marks...	23,840	Total.....	\$964,585
Total.....	\$964,585		

#### WOONSOCKET RUBBER CO.

THE details of the statement of condition (March 31, 1903) filed by this company with the Massachusetts commissioner of corporations compare with the statement for the preceding year as follows:

ASSETS.	1903.	1902.
Real estate.....	\$ 897,543	\$ 902,403
Machinery.....	324,135	336,659
Cash and debts receivable.....	3,411,309	1,705,443
Stocks in process.....	1,640,297	2,083,850
Adjustment of inventory.....	1,198,974	.....
Miscellaneous.....	1,188	.....
Total.....	\$7,473,466	\$5,028,355
LIABILITIES.	1903.	1902.
Capital stock.....	\$3,000,000	\$3,000,000
Debts.....	2,805,999	1,543,861
Fixed surplus.....	1,613,900	414,905
Profit and loss.....	53,567	69,589
Total.....	\$7,473,466	\$5,028,355

The factory has been running full time all summer, with an unusually large working force. It was reported lately that the force of women employed in the "Alice" mill was about to be increased from 300 to 400, and that there probably would be no shutdown for the summer.

#### BANKRUPTCY OF DRESSER & CO. (NEW YORK).

JUDGE ADAMS, of the United States district court in New York, on July 9, signed an order for adjudication in bankruptcy of Dresser & Co., commission merchants in hosiery, silks, and elastic webbing, Nos. 15-17 Greene street, New York, and referred the matter to Stanley W. Dexter, referee in bankruptcy, of No. 71 Broadway. It had previously become known to the firm's creditors that D. Le Roy Dresser, the head of the firm, would not be able to fulfil his agreement [see THE INDIA RUBBER WORLD, May 1—page 279] to deposit securities sufficient to meet all their claims, owing to the depreciation which said securities had undergone, and the creditors may not now receive more than 25 or 30 per cent. of their claims.—The time allowed to the receivers appointed under the original proceedings in this case, to continue business, was finally extended to July 27. Up to June 29 they had sold \$314,956 worth of goods, on which \$159,290 had been collected, besides collections of \$390,000 due the firm on open account on old business. On July 12 the outstanding accounts were reported at \$111,000, and the receivers had a balance in bank of \$89,076, with current expenses paid.—The affairs of Dresser & Co. appear to have become involved through the connection of Mr. Dresser with the organization of the United States Shipbuilding Co., the

plans for which it was not possible to carry out fully. The Trust Co. of the Republic (New York), of which Mr. Dresser was then president, was also involved, in consequence of which the capital of the trust company has been reduced from \$1,000,000 to \$500,000, the remainder being charged against losses. A member of the trade suggests to THE INDIA RUBBER WORLD, but without assuming to speak for Mr. Dresser: "No doubt Mr. Dresser had friends ready to assist him to discharge the debts of Dresser & Co., in full, as promised. But when other financial troubles began to develop, in connection with the shipbuilding deal, his friends advised him to let the firm of Dresser & Co. go through bankruptcy. If they should spend in settling the affairs of this firm the few hundred thousand dollars with which they were ready to assist him, it would leave them less able to assist him in event of possibly more serious embarrassments resulting in other directions."

#### THE CONTINENTAL RUBBER WORKS (ERIE, PA.)

THIS is a new company, having \$200,000 capital subscribed, for the manufacture of mechanical rubber goods. They have purchased the plant of the American Cycle Manufacturing Co. known as the "Tribune" factory, at Erie, Pennsylvania, which is admirably fitted for the purpose to which it is to be put. Machinery has been ordered, with guaranteed delivery during September. The power plant is to be increased by adding two 250 HP. boilers and one 250 HP. engine. There is plenty of room for additional buildings, if necessary. The company will make single tube and double tube automobile and bicycle tires, and a general line of mechanical goods and molded work. The company are composed principally of Erie people. The

general manager and superintendent will be Theron R. Palmer, some time superintendent of the tire department of The B. F. Goodrich Co., and later superintendent of the Pennsylvania Rubber Co. The manager of sales will be Charles F. U. Kelly, also formerly with The B. F. Goodrich company, and then with the Pennsylvania company in a like capacity. The factory will be equipped entirely with new machinery, good men have been engaged, and the purpose of the company is to make high class goods. The "Tribune" factory was erected in 1893 for a bicycle plant, and at one time gave employment to about 700 workmen. The factory buildings are all of mill construction, with heavy brick walls, erected upon solid stone foundation. The floor space is 102,500 square feet. The power plant includes a 400 HP. Brown-Corliss engine, and two dynamos capable of supplying electric lights and power for elevator motors, etc. The directors have elected officers as follows:

*President and General Manager.*—THERON R. PALMER.

*Vice President.*—ALEXANDER JARICKI.

*Secretary.*—CHARLES JARICKI.

*Treasurer.*—CHARLES S. COLEMAN.

Application for the charter of a company will be made to the governor of Pennsylvania on August 7.

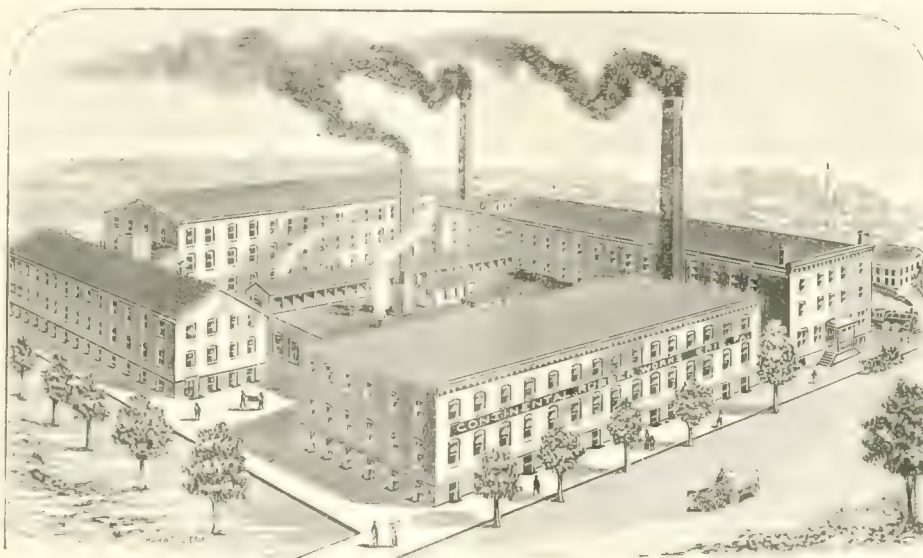
#### HEAVY NEW CABLE IN NEW YORK BAY.

A TELEGRAPH and telephone cable was laid on July 12 between New York and Ellis Island. This cable, manufactured by The Safety Insulated Wire and Cable Co. (New York), consists of 24 conductors, each insulated with a pure Pará rubber compound. Owing to the large number of vessels anchoring in the vicinity, the armor of this cable is exceptional, making it the largest and heaviest submarine cable yet manufactured, weighing 15 pounds per foot [=79,200 pounds per statute mile]. The cable was ordered by the United States government for connecting the offices of the bureau of immigration at Ellis Island—the famous landing point for immigrants to the United States—with the mainland. The cable will be used for long distance telephone calls and to accommodate both the Western Union and Postal Telegraph offices on Ellis Island.

#### AFTER A RUBBER MAN'S MONEY?

THE banking commissioners of New Jersey recently took charge of the offices in that state (at Jersey City) of the Interstate Trust Co., as an institution which seemed to merit official investigation. This company obtained a New Jersey charter February 11, 1902, to do business in that and other states, the incorporators being reputable financial men in New York, and elaborate offices were opened in this city at No. 25 Pine street. One avowed object was the establishment of banks in small western towns, where local capital was lacking for the proper

development of the country, and the Interstate Trust Co. was to be a holding company for the shares of such banks. It now appears that the New Yorkers referred to speedily withdrew from the enterprise leaving its control to the original promoter, one Leonard Imboden, who is described as a man of engaging personality and hailing from the West, where he is asserted to have left a bad record. The resources of the Interstate Trust Co., it is asserted, consisted of securities of a chain of small financial institutions out of town, said to have been formed and controlled by the same Leonard Imboden, with very little real capital, the whole being a means to securing large credits in the East without any proper basis. It is stated that when the New Jersey officials interfered, the trust company was preparing to announce its capital as \$5,000,000 and to issue \$30,000,000 in bonds. Imboden appeared some months ago in Providence, Rhode Island, where he secured certain support, and a financial company was formed in which he was a "silent partner," but it is asserted by one of the partners, who withdrew from it very shortly, that the only man who put in any capital



CONTINENTAL RUBBER WORKS (ERIE, PA.).



was the son of a late wealthy rubber manufacturer. The feeling in Providence is that the sole reason for Imboden's interest in Providence was his hope of gaining control of some of the rubber man's millions. How far he succeeded remains to be learned.

#### MONARCH RUBBER CO. (ST. LOUIS).

IN regard to reported labor troubles at this factory, engaged in making rubber footwear, Secretary W. E. Hemenover advised THE INDIA RUBBER WORLD on July 20: "About a month ago we discovered there was a man here from Chicago by the name of Dunn, and he was endeavoring to organize our employes into a union. We found he was a blacksmith by trade, but had evidently become connected with the union in Chicago which comprises the employes of Morgan & Wright and the Chicago Rubber Works Co. As far as we are able to discover, he never saw a rubber boot and shoe factory, but he succeeded in convincing many of our employes that they were terribly abused, by telling them the most extravagant tales imaginable. He led them to believe that if they would become well organized they could demand and obtain something like 100 per cent. more than they were getting. However, many of our employes, and especially those familiar with wages and condition in other rubber boot and shoe factories, refused to be enticed by such absurd promises or to be forced into an organization that was destined to breed trouble, and partly because of their advice we closed our factory. This action the malcontents have been pleased to call a 'lock out.' About two weeks ago we started up again and are gradually gaining in production. We hope soon to have our ticket up to what it was before this trouble occurred."

#### NATIONAL INDIA RUBBER CO.—A CLAMBAKE.

A COMPLIMENTARY clambake was given by the salesmen, foremen, and clerks of the National India Rubber Co. in honor of Mr. Harry H. Shepard, general manager of the company, on the Church farm, near Bristol, Rhode Island, on the afternoon of July 18. It was attended by about a hundred persons, including some of the directors of the company, Secretary Samuel Norris, of the United States Rubber Co., and other representatives of that company's New York offices, members of the town government, etc. T. Smith McKeon was chairman of the committee on arrangements. Manager Shepard presided at the table. The clambake had been prepared by an expert, and was greatly enjoyed, as well as the social feature of the reunion. After the dinner a game of baseball was witnessed.

#### THE WILLIAMS RUBBER CO. (LOS ANGELES, CALIF.)

MR. H. O. HARRISON, sales manager of this company, the incorporation of which was reported in THE INDIA RUBBER WORLD June 1, 1903 (page 320), reports: "We carry a complete stock of all standard makes of automobile tires and carriage tires of all descriptions. We also have a complete vulcanizing establishment for vulcanizing all pneumatic tires made. In this respect, we have probably the most complete shop in the United States, and will make this work our specialty. In addition to tires, of course we handle all lines of mechanical rubber goods."

#### FACTORY INSPECTION IN INDIANA.

THERE are no occupations in Indiana in which child labor is prescribed by law. But Daniel H. McAbee, chief of the state department of inspection, in the sixth annual report of that office to the Governor (1902), suggests the propriety of following the example of various American and European states in prohibiting the employment of young persons in certain trades. He recommends that "Females under 16 should not be permitted to work in cigar, tobacco or match factories, or rubber

works. Females over 21 employed in rubber works should be limited to not more than 8 hours per day, with 1½ hours of rest and exclusion from the workroom." He advises the adoption of a law similar to that of Ohio, which provides that no person under the age of 16 shall be employed in certain work connected with machinery, including work at "calender rolls in rubber manufacturing." Mr. McAbee lately has been studying the conditions of calender work in rubber mills with a view to the protection of employes of every age from accidents. Of the 541 accidents in factories reported on during the year, three were in connection with roller work in rubber mills. A man aged 55 lost an arm while operating mixing rollers; a man aged 58 lost the fingers of one hand from a similar cause; and a boy of 14 lost a finger and had an arm fractured by an accident in connection with rubber rolls.

#### THE RUBBER INDUSTRY IN INDIANA.

THE annual report of the state factory inspector for 1902 gives statistics of four rubber factories, employing 485 males and 47 females—a total of 532—and steam plant of 1550 HP. Not included in this showing is the Mishawaka Woolen Manufacturing Co., producing woolen and rubber footwear, with 1200 males and 250 females employed, and using 1200 HP. steam and 1400 HP. water.

#### MORE ROOM FOR THEODORE HOFELLER & CO.

THEODORE HOFELLER & Co. (Buffalo, New York), who are among the largest handlers of old rubber in the world, have recently made an extensive addition to their facilities, by acquiring a four story brick building adjoining their already spacious establishment. The first floor of this building will be devoted to well appointed offices, including the private offices of Messrs. Theodore and Julius Hofeller. The three upper floors will be devoted to the details of the firm's shipping business. Each floor of the newly acquired building will be connected with a corresponding floor of the old establishment. Many new conveniences or improvements have been introduced, including a large new electric elevator. It is mentioned that an expert office force of twenty persons is employed.

#### GIBSON-KING RUBBER CO. (NEW YORK).

THIS is a new firm, engaged in the sale of mechanical rubber goods principally, located at No. 206 Broadway. Mr. R. Renwick Gibson was connected for some years and until recently with the Mineralized Rubber Co. (New York), and Mr. C. C. King, formerly of Mississippi, which state he represented as commissioner to the Paris exposition of 1900, has been engaged hitherto in the cotton trade. The business of the new firm includes selling arrangements for the Trenton Rubber Manufacturing Co.

#### YATMAN RUBBER PLANT BURNED.

THE factory of the Yatman Rubber Co., at Belgrove Drive and Passaic avenue, Kearney, near Newark, New Jersey, was destroyed by fire late on the night of July 11. It is understood that the loss is well covered by insurance.

#### PROFITS OF THE AMERICAN CHICLE CO.

AT the annual meeting in Jersey City, New Jersey, on July 21, a report was presented showing that after paying dividends during the year amounting to \$900,000, there were surplus undivided profits of \$776,000. Dividends on the preferred stock, at 6 per cent., amounted to \$180,000, and on the common stock, at 12 per cent., to \$720,000. New factories had been built and equipped, at Louisville, Kentucky, and Newark, New Jersey, and paid for out of the earnings. The official list remains as before: Directors: Thomas Adams, Jr., E. E. Beeman, W. J. White, G. H. Worthington, J. B. Primley, T. J. Jefferson, Charles

R. Flint, Thomas Adams, Sr., Stephen T. Britten, Henry Rowley, W. H. White, James C. Young, T. L. Jefferson. Thomas Adams, Jr., is chairman, W. J. White president, G. H. Worthington vice president, and Henry Rowley secretary and treasurer. Recent quotations for the company's shares were: Preferred, 80 bid, 93 asked; common, 110 bid, 114 asked.

#### WHOLESALE RUBBER STEALING

THE last number of the INDIA RUBBER WORLD chronicled the theft of six cases of fine Pará rubber from the Joy Steamship line, of which, by the way, not the slightest trace has yet been discovered. This month's news regarding rubber stealing is even more sensational. It seems that a truck owned by Middleton Brothers, a well known trucking firm, on July 24 was engaged by the New York Commercial Co. to take 20 cases of fine Pará rubber from Pier 51 North river, to Pier 50 East river, whence it was to be shipped to the Easthampton Rubber Thread Co. The truck was in charge of a regular driver and a man who acted as an occasional helper. According to the story of the truckman, after having several drinks the regular driver suggested that they could easily get some money on the rubber that they had with them and they therefore chartered a wagon and, accompanied by three "gentlemen of leisure," whom the police inspector characterized as "bums," they proceeded to a junk shop owned by one Murphy at No. 38 Front street, Brooklyn, New York, where they sold the two cases, netting some 685 pounds of fine upriver Pará, for \$6. In the meantime the assistant driver had been left with the truck and 18 cases of fine Pará, and, according to his story, he became nervous, and leaving the truck, horses, and rubber, fled. Very late at night, the police having been notified, the empty truck was found in Thirteenth street, Brooklyn, all the rubber having disappeared. It is estimated that the rubber at the present market price was worth \$6500. The loss in the present instance, unless the goods are recovered, will fall upon the truckmen. The two cases which went to the junk man have, through the promptness of the police, been secured.

#### MONARCH RUBBER AND OIL CLOTH CO.

THIS new company, at No. 41 North Seventh street, Philadelphia, issue a well arranged and nicely got up catalogue of a full line of Mechanical Rubber Goods, and also rubber carriage cloth, enameled oil cloth, table oil cloth, and linoleum, representing the products of high class factories. [4¼" × 7½". 64 pages.]—This company was incorporated September 1, 1902, under the laws of Pennsylvania; Francis Chapman is president and Edwin H. Chapman secretary and treasurer.

#### RUBBER WORKERS' UNIONS.

LOCAL No. 3, of the Amalgamated Rubber Workers' Union of America (Cambridge, Massachusetts), on July 17 installed these officers: John G. Sheehan, president; William Geaney, vice president; Henry Kolbe, recording secretary; Walter Dougherty, financial secretary; Florence Sullivan, treasurer; M. Lavender, guide; Miss Mary Foley, guard.

Local No. 4 (Trenton, New Jersey), now claiming 716 members, during the month elected new officers as follows: Jules Kohlenberger, president; Thomas Stanton, vice president; James O. Donovan, recording and corresponding secretary; Walter Sigley, financial secretary; J. O'Connell, treasurer; William Walker, trustee; J. W. Clothier, guide; John Philhouer, guardian.

#### "CONTINENTAL" TIRES IN AMERICA.

THE Continental Caoutchouc Co., the incorporation of which was reported in these pages last month, has been formed to promote the interests in the United States of the Continental Caoutchouc- und Guttapercha-Compagnie, important rubber

manufacturers, of Hanover, Germany. Offices have been opened at No. 298 Broadway, under the management of Emil Grossman, a dealer in automobiles and supplies. The officers are: Willy Tischbein, of the office in Hanover, president; Marcel Kahle and Joseph L. Kahle, importers, at No. 48 West Fourth street, New York, vice president and treasurer, respectively. The plans of the new company have not yet been announced. For instance, it is not known here whether the owners of the "Continental" tire will respect the "G and J" tire patents by taking out a license under them. Increased attention has been directed to the "Continental" automobile tires for the reason that they were used on the Mercedes automobile with which M. Jenatzy won the race for the Gordon Bennett challenge cup at Ballyshannon, Ireland, on July 2.

#### AFFAIRS OF THE EASTERN ELECTRIC CABLE CO.

IT will be remembered that early in April Judge Colt, of the United States circuit court, appointed Homer M. Daggett and Alfred W. Worthley receivers for the Eastern Electric Cable Co., manufacturers of insulated wire, at No. 61 Hampshire street, Roxbury, Massachusetts, on complaint of Henry A. Clark, claimed to be creditor to the extent of \$17,300, and an additional \$13,000 on account of endorsements on other obligations. This indebtedness was acknowledged by the company and the receivership assented to. The total indebtedness of the company was said to be about \$100,000, and it was thought to be to the advantage of the creditors to have the business continued. The company own some land near the factory which is assessed for \$12,100, or about 75 cents a foot. On this there is a \$10,000 mortgage with one year's interest due, and also one year's taxes. It is thought that this land will bring about \$1 a foot. In May Alfred W. Worthley, on petition, was given leave to tender his resignation as receiver, and Mr. Daggett is now the sole receiver. Mr. Henry A. Clark, founder of the business, was for some years a manufacturer of insulated wire with a plant in Bristol, Pennsylvania. He there invented a special reclaiming process and also an insulating compound which seemed to be of special value. Later he bought land in Roxbury, near the plant of the Boston Belting Co., and put up a plant for the manufacture of insulated wire, incorporating the Eastern Electric Cable Co., in which he was a large owner. The business for a time was exceedingly profitable, and "Clark wire" was well known throughout the United States. Mr. Clark is the inventor of many valuable processes and machines both in the line of rubber manufacture and outside of it, and it is prophesied that he will, before long, be able to put the business again on a substantial footing and settle with the creditors in full. The business at Roxbury was begun in 1885.

#### UNITED STATES RUBBER CO.

THE following is a summary of the trading on the New York Stock Exchange in the shares of this company since the date of the last report in these columns:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending June 20	950	13½	13	2,743	51	50
Week ending June 27	300	13½	13	700	50½	50
Week ending July 3	300	13½	13½	540	50	49½
Week ending July 11	845	13	12½	512	49½	49
Week ending July 18	2,300	12½	11½	1,065	48½	48
Week ending July 25	4,700	12	11	5,535	48	31

#### AMERICAN TUBING AND WEBBING CO. PROVIDENCE, R. I.

So far as can be learned no change in the affairs of this company has resulted from the bankruptcy of Dresser & Co. (New York). The factory is being run full time, and the officers



state that the business is in a prosperous condition. Among the creditors of Dresser & Co. who have asked leave of the United States district court to join in the petition in bankruptcy is the Manufacturers' Trust Co., of Providence, which holds an assigned claim of the Tubing and Webbing company for \$29,112. The company's product consists of flexible tubing for gas stoves, drop lights, etc., elastic webbing for suspenders, garters, and the like, of both silk and cotton weaves, hat elastics, elastic braids to order, and similar products. The company are not consumers of crude rubber, but large purchasers of rubber thread.

#### RUBBER GOODS MANUFACTURING CO.

It is understood that the company's total sales for the first six months of 1903 amounted to about \$9,000,000, while the largest sales in any entire previous year had been only \$14,000,000. This was in spite of the loss of one of the company's factories by fire in March, and the fact that a strike existed in two other factories at the beginning of the year. It is understood also that the litigation in which the company has been engaged for some time is about to be settled satisfactorily. The quarterly dividend of  $1\frac{3}{4}$  per cent. on the preferred stock, on July 16, represented a disbursement of \$140,899.50. During the past month the quotations for the company's shares, on the New York Stock Exchange, were the lowest of the year, but this decline was simultaneous with a "slump" in all listed securities, the reason for which remains to be learned. The lowest prices for the month, however—until after the Taylor failure on July 24—were still several points above the lowest prices in 1902, when sales of preferred were made at 63 and common at  $17\frac{1}{4}$ . The record for a month past follows:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending June 20	310	23 $\frac{1}{4}$	23 $\frac{1}{2}$	300	77 $\frac{7}{8}$	77 $\frac{5}{8}$
Week ending June 27	1,500	23 $\frac{3}{4}$	22 $\frac{1}{4}$	200	77 $\frac{1}{2}$	77
Week ending July 3	800	22 $\frac{1}{2}$	22 $\frac{3}{4}$	500	77 $\frac{1}{2}$	76
Week ending July 11	1,130	22 $\frac{1}{2}$	21	720	79 $\frac{1}{2}$	76
Week ending July 18	3,030	21 $\frac{1}{2}$	20 $\frac{1}{4}$	500	75 $\frac{1}{2}$	74 $\frac{1}{4}$
Week ending July 25	23,075	21	12	5,235	75	60

Apparently the company will be affected in no way by the assignment, reported on July 24, of the important stock brokerage firm of Talbot J. Taylor & Co. (New York), although the head of the firm as first vice president, and his partner and brother, James B. Taylor, is treasurer of the company. Talbot J. Taylor is the son in law of James R. Keene, whose holdings of Rubber Goods shares were sufficient to enable Taylor & Co., in 1902, to control the organization of the company. Taylor & Co. have been credited with immense speculative deals in railway shares, the failure of which forced their suspension. Though the failure was one of the largest in recent Wall street annals, it did not precipitate a panic, but instead was followed by a general rise in stocks, the explanation being that the market had become depressed in part through rumors of the weakness of some important brokerage firm, and when the Taylor assignment came, an element of uncertainty was removed. Charles H. Dale, president of the Rubber Goods Manufacturing Co., said:

"The failure of Talbot J. Taylor & Co. will have absolutely no effect on this company. The company was never in any flourishing condition. We owe nobody and nobody owes us, except in the trade circles, and there is money in the treasury. Talbot J. Taylor & Co. do not own a controlling share of the stock of this company, as a matter of record. Of course, as stock brokers I do not know how much stock they carried belonging to others. Talbot J. Taylor & Co. handled proxies

around elections of the company and had a lot to do with the reorganization of the company, but the failure won't touch us."

It is currently reported in Wall street that all but one of the financial institutions holding collateral for loans made to Talbot J. Taylor & Co. agreed to wait a reasonable time before marketing it. The one firm, however, threw upon the market on the morning following the failure, all its Taylor collateral, including large blocks of Rubber Goods stocks, and this action explains the heavy decline in these issues noted in the above table. The selling of Rubber Goods shares on July 25 was as follows:

PREFERRED.	PREFERRED.	COMMON.
Shares.	Shares.	Shares.
1100.....60	100.....63	100.....13 $\frac{1}{4}$
200.....63	COMMON.	100.....13 $\frac{1}{8}$
1100.....60	Shares.	100.....13 $\frac{1}{4}$
200.....51	7000.....12	400.....13 $\frac{1}{2}$
500.....60	2000.....12 $\frac{1}{2}$	300.....13 $\frac{1}{2}$
400.....61	300.....12 $\frac{3}{4}$	200.....13 $\frac{3}{8}$
100.....61 $\frac{1}{2}$	3000.....12	200.....13 $\frac{1}{4}$
50.....61	100.....12 $\frac{1}{4}$	100.....13 $\frac{1}{2}$
100.....61 $\frac{1}{4}$	200.....13	100.....13 $\frac{1}{8}$
33.....61	200.....13 $\frac{1}{4}$	1100.....13
45.....61 $\frac{1}{2}$	100.....13 $\frac{1}{2}$	10.....11 $\frac{7}{8}$
300.....61	400.....13	100.....13

Later in the month Preferred shares sold up to 68 and Common to 14.

#### NEW INCORPORATIONS.

THE India Rubber Co. of New Jersey, July 1, 1903, under New Jersey laws, to manufacture India-rubber goods; capital, \$500,000. Incorporators: Kenneth K. McLaren, Joseph M. Mitchell, L. B. Dailey, H. O. Coughlan, W. N. Akers, B. B. Lewis, and Oscar N. Coohcan. Registered office in New Jersey: Corporation Trust Co., No. 15 Exchange place, Jersey City. This is the company referred to in the last INDIA RUBBER WORLD as being formed under the control of the Rubber Goods Manufacturing Co., to operate a factory owned by the latter at New Brunswick, N. J., and to succeed to the business of the India Rubber Co. of Akron, Ohio. There has not yet been an election of officers.

=The Dayton Rubber Manufacturing Co., July 7, 1903, under New Jersey laws, to manufacture mechanical goods at Dayton, Ohio; capital \$250,000, of which \$100,000 in 8 per cent. cumulative preferred stock, and \$150,000 in common stock. Incorporators: W. S. Huffman, Boston, Mass.; Harrie N. Reynolds and Oscar F. Davidson, Dayton, Ohio; William H. Speer, Jersey City, N. J. Mr. Huffman is widely known in connection with the sale of rubber vehicle tires, in which business he has been engaged for ten years, besides which he is the patentee of a new rubber tire.

=The Foster Rubber Co. (Boston), July 21, 1903, under Maine laws, to deal in rubber goods; capital, \$100,000, in shares of \$25. Frederick J. Morrison, president; Daniel S. Pratt, treasurer. Offices: No. 370 Atlantic avenue, Boston. Organized to buy and control the Foster patents on improved rubber treads, being the "friction plug" as applied to rubber heels and soles, heels of rubber boots, crutch and cane tips, automobile tires, horseshoe pads, and rubber mats and matting. The Elastic Tip Co. (Boston) will be the company's selling agents on rubber heels and soles and crutch tips.

=Pettie Tire Co., July 9, 1903, under New York laws; to manufacture rubber tires; capital, \$50,000. Incorporators: Edwin H. Ensell, William H. Connell, Emma C. Pettie, all of Brooklyn, New York.

=Randolph Rubber Manufacturing Co. (No. 620 Atlantic avenue, Boston), incorporated under the laws of the District of Columbia; authorized capital, \$1,000,000. The object is to acquire a factory and make rubber goods generally, but the inten-

tion at first is to make a specialty of the new "Staple Lock" rubber heel, patented by Henry F. Rooney, of Randolph, Mass. (Patent No. 726,464, issued April 28, 1903.) Negotiations are under way for a factory at Randolph.

=Blackstone Webbing Co. (Pawtucket, Rhode Island), June 23, 1903, under Rhode Island laws, to manufacture textile and rubber fabrics; capital, \$100,000, of which \$50,000 each in preferred and common stock. Incorporators: Eaton Cliff, Louis W. Bishop, and Joseph L. Bodell.

#### TRADE NEWS NOTES.

THE New York Insulated Wire Co. have awarded a contract for the erection of an additional brick building at their factory at Wallingford, Connecticut—formerly the Metropolitan Rubber Co. plant—100×60 feet, four stories high, and basement. The cost is reported at \$25,000.

=A contract for supplying fire hose to the city of Baltimore was awarded recently to the Boston Woven Hose and Rubber Co., in consequence of a report by the chief engineer of the fire department on the good service obtained from hose bought from the same company in 1901 and still in use.

=The Campbell Shoe Co. (Quebec, Ontario) received recently the first of four carloads of rubber boots and shoes to be shipped to them this season by The Maple Leaf Rubber Co., Limited (Toronto). Their order includes more pairs of rubbers than there are inhabitants in Quebec.

=The Hood Rubber Co. now have 2300 employes at work in their factory (East Watertown, Mass.), turning out 30,000 pairs of rubber boots and shoes daily. About 300,000 square feet of floor space are utilized.

=At the adjourned annual meeting of the American Rubber Co. (Boston, July 6) the board was continued in office without change—William R. Dupee, Samuel P. Colt, Harry E. Converse, Lester Leland, and Costello C. Converse—and Mr. Dupee was reelected president and George P. Eustis treasurer and clerk.

=The S. H. & M. Co. (Cleveland, Ohio), having decided to go into the manufacture of dress shields, have purchased the business of the Brooklyn Rubber Co. (Brooklyn, New York.)

=The Empire Rubber Manufacturing Co. (Trenton, N. J.) have established a department for the manufacture of high gradeenameled cloth for carriage tops, which they are selling in connection with their regular line of carriage cloth.

=The recent flood at Jeannette, Pa., although disastrous to many enterprises, did little harm to the new plant of the Pennsylvania Rubber Co. The water rose about an inch above the main floor of their plant, but quickly subsided, and what little damage was done was easily repaired.

=The Peerless Rubber Manufacturing Co. (New York) issue a circular embracing a photographic reproduction of a piece of "Peerless" packing after use for five months at 80 pounds steam pressure, showing a surprising degree of durability. Also, a letter from the Diamond Soda Works (Milwaukee, Wisconsin), stating that "Peerless" packing would last in a certain trying position 8 to 10 days, whereas no other packing used under the same circumstances had lasted more than one day.

=A. G. Burt becomes manager of the Standard Rubber Shoe Co. (Chicago), succeeding F. O. Ketterling, whose death was reported in the last INDIA RUBBER WORLD, and whose assistant he had been for several years.

=The Beacon Falls Rubber Shoe Co. (Beacon Falls, Conn.) closed for only a day in connection with the Fourth of July, instead of giving a week's summer vacation. They are about to erect an additional building for the storage of stock.

=A legal controversy is in progress over a dam erected by the Newton Rubber Co. in the Charles river, at Newtown, Mas-

sachusetts. The local park commission acquired by right of eminent domain a tract of land, through which a branch of the river flows, and filled in a portion of the river. The rubber company claimed that this interfered with their water rights, and impounded the water in a dam. The company also filed a suit to compel the restoration of their alleged rights. The state has now brought an action against the Newton Rubber Co. and the City of Newton for interfering with the flow of the river.

=H. E. Pierce, secretary of the Warren Rubber Co., a jobbing house at Warren, Ohio, since their incorporation in May, 1897, and in charge of their office, has resigned to engage in another business.

=The Maynard Shoe Co. (Claremont, New Hampshire) are sending out to present and prospective customers a neat and convenient paper cutter, or letter opener, lettered with a reference to their new product—tennis shoes.

=The Hayes Manufacturing Co. (Natick, Mass.) have gone into the manufacture of golf balls. Mr. Hayes will be remembered as having been for years connected with the rubber business, at one time manufacturing a line of white reclaimed rubber.

=The Granby Rubber Co. (Montreal) have purchased the plant of the Granby Last Co. (in liquidation) at Granby, and are thus in a position to make their own lasts for rubber boots and shoes.

=At Montreal, on June 30, Mr. Justice Fortin granted the petition of John Stock, accountant, of Lachine, for an order to wind up the affairs of the Strathcona Rubber Co., of Montreal, of which E. L. Rosenthal is president. J. McD. Hains was appointed provisional liquidator. The Strathcona company was incorporated in August, 1901, to manufacture waterproof clothing and established a rubber factory.

=The Wolsley Rubber Co. are a new firm in the manufacture of waterproof garments in Montreal, in Notre Dame street, headed by Mr. Wolsley, formerly of The Canadian Waterproof Co.

=According to *The Clothier and Haberdasher*, of Montreal, an important English firm who have long been selling waterproof garments in Canada, have determined to establish a branch for their manufacture in Montreal. The description of the firm fits the Messrs. Frankenburg, of Manchester, the visit of whose head to America was mentioned in the last INDIA RUBBER WORLD.

=Mr. George H. Gibson has resigned as manager of the advertising and publication department of the B. F. Sturtevant Co. (Boston), to accept an appointment with the International Steam Pump Co., having offices at Nos. 114-118 Liberty street, New York. Mr. Gibson was formerly connected with the Westinghouse companies' publishing department, of Pittsburgh, Pa., and was for two years a member of the editorial staff of the *Engineering News* (New York).

=Business has been so brisk at the factories of the Boston Rubber Shoe Co. that they are contemplating not giving the annual August vacation this year.

=The factory of the Preston Hose and Tire Co. (Marlboro, Massachusetts) is reported again in full operation.

=The American Hard Rubber Co. have filed plans with the building department for an additional three story brick building, of fireproof construction, at their College Point factory.

=The Wisconsin Rubber Co. was incorporated July 15, under Wisconsin laws, to develop Mexican property; capital \$60,000. Incorporators: Rasmus B. Anderson, Charles H. Hall, Samuel W. Merrick, F. C. Hudson, E. F. Carpenter—of Madison, Wisconsin.



=A certificate has been filed with the secretary of state of Connecticut reducing the capital stock of the Bridgeport Elastic Web Co. from \$100,000 to \$2000. This company was merged into a Massachusetts corporation some two years ago, since which time the work formerly done by it has been consolidated at Boston.

=The Springfield Tire and Rubber Co. (Springfield, Ohio) have added a large three roll calender and hydraulic press to their plant, and in addition to their regular line of mold work have taken on the manufacture of mats and matting.

=Typke & King, whose specialties for rubber manufacturers the world over are so well known, have removed their London office from 47, Wilson street, to 16, Mincing lane.

=The July 22 issue of the *Boot and Shoe Recorder* as a "Rubber number" is the most interesting copy of that live weekly that has appeared in a long time. Editor Putnam has massed a lot of information, illustration, and incidentally good advertising that makes a fine total. One question, however, occurs to the writer: What happened to the many kodak pictures that he apparently took at the recent New England Rubber Club outing? Wasn't the box loaded, after all?

=P. W. Saunders, of North Waterford, Maine, former postmaster of that town, has been engaged by the Lowell Rubber Co. (Lowell, Mass.), one of the oldest wholesale and retail rubber stores in New England, to take charge of their business.

#### PERSONAL MENTION.

WILLIAM G. HILL, who died at his home in Malden, Massachusetts, on July 10, in his fifty-third year, was a nephew of the Hon. Elisha S. Converse, being a son of an elder sister of the latter—Sarah Converse [1811-1850], who married James Hill, of Thompson, Connecticut. Mr. Hill had been, since 1853, connected with the leather trade in Boston. He is survived by his wife (*nee* Thompson, of Richmond, Virginia) and two sons, the elder of whom, William G. Hill, Jr., is the transportation agent of the Boston Rubber Shoe Co.

=Mr. John P. Lyons, advertising manager of the United States Rubber Co. accompanied by Mrs. Lyons, sailed from Boston on July 9 for Europe, on a vacation of four weeks, most of which will be spent on the water. Mr. Lyons has made a record for himself with the United States company as a brilliant and tireless worker—indeed, he has always been an overworker. It is therefore the hope of all that the rest which he has so richly earned may do him much good.

=Mr. James A. Braden, hitherto correspondent at Akron, Ohio, for THE INDIA RUBBER WORLD, and connected in an important way with Akron journalism, has retired from his various positions to become advertising manager for the Diamond Rubber Co. On the evening of June 27 a complimentary dinner was tendered to Mr. Braden at the Empire House, in Akron, by a number of local newspapermen, who, while regretting his retirement from journalism, wished him every success in his new field.

=Mr. Joseph Thomas Hart and Miss Margaret Annie Stewart were married on June 24, in Montreal, at the Erskine Presbyterian church, by the pastor, the Rev. A. J. Mowat. Mr. Hart is superintendent of the boot and shoe department of the Canadian Rubber Co. of Montreal, the employes of which company joined in making a handsome wedding present, which was tendered at the reception, held at Stanley Hall, in a speech by Mr. A. D. Thornton, superintendent of the mechanical department. The wedding journey included Niagara Falls, Buffalo, N. Y., and Williamsport, Pa., Mr. and Mrs. Hart visiting relatives and friends.

=Mr. Ira Walton Henry, the electrical engineer of The Safety Insulated Wire and Cable Co. (New York), accompan-

ied by his family, lately returned from an absence in Europe of several weeks, during which he attended several technical meetings and inspected a number of new electrical installations of interest.

=The will of the late Charles Albert Hoyt, a director in the American Hard Rubber Co., who died on April 18, leaves to his widow their house at No. 15 Pierrepont street, Brooklyn, together with a large sum of money. The son, Dr. Albert Sherman Hoyt, is also well provided for. There are seventeen specific legacies, amounting to \$29,500, mostly to Roman Catholic charitable institutions.

=The marriage is reported, at Stockholm, Sweden, of Mr. R. M. Howison, European agent for the Pennsylvania Rubber Co., with offices in London, and Miss Madeleine, daughter of Charles de Lacy MacCarthy, M. B., B. A. Mr. Howison will be pleasantly remembered by many who knew him in the rubber trade in Boston and Hartford, some years ago.

=The Editor of THE INDIA RUBBER WORLD is in receipt of a beautiful specimen of Japanese woodcut printing, the invention of the famous water color artist, Mr. K. Miyake. The picture shows twenty-eight shades of color and is a marvelously artistic piece of work. The recipient becomes its possessor through the kindness of Mr. Kenzo Okada, now a rubber manufacturer in Japan, but formerly employed in rubber factories in the United States.

=Mr. C. J. Bailey, of No. 22 Boylston street, Boston, will spend the month of August at the beautiful summer resort known as "Casco Castle," South Freeport, Maine.

=Mr. Eben H. Paine, sales manager of the United States Rubber Co., is utilizing the hot months by taking a trip to Europe.

=Mr. William C. Coleman, who is well known in the rubber trade, was married on July 18, to Miss Winona Taylor. Mr. and Mrs. Coleman will be at home at "The Highlands," Ninety-first street, New York, after September 1.

=Mr. Ernest Baldwin, New York manager for the Voorhees Rubber Manufacturing Co. (Jersey City), is a member of the Essex Troop of the New Jersey National Guard, and joined his regiment in the annual encampment at Seagirt during the latter part of July. The camp was favored with an inspection by Mr. Root, secretary of war of the United States.

#### RUBBER NOTES FROM THE AMAZON.

TO THE EDITOR OF THE INDIA RUBBER WORLD: It usually is taken for granted here that heating the *latex* before smoking injures the quality of the rubber. In 1873, when this method was first introduced, the Pará rubber houses—Manãos did not then exist—especially Singlehurst & Co., sent representatives up country, asking the *seringueiros* not to adopt it. Nowadays, however, when only greenhorns smoke cold rubber milk, little is said about the practice. There can be no doubt that heating the milk hastens the effect of the cure by smoking, but whether it does or does not injure the rubber, I cannot say; I think, however, that it does. I will try to obtain samples of cold and hot smoked rubber, and send to the United States for comparison.

You may be interested in hearing of the enormous yield of a rubber tree (*Hevea Brasiliensis*) in Murumurutuba, on the river Madeira. It was discovered by an old man nearly three years ago, since which time it has been tapped regularly 90 days in the year—25 days in the month during the season—yielding an average of 2 liters of *latex* per day. This would give a total of 180 liters [=190 quarts] per year.

L. G.

Manãos, Brazil, May 1, 1903.

## INDIA-RUBBER INTERESTS IN EUROPE.

## THE SUBMARINE CABLE INDUSTRY IN GERMANY.

THE business report of the Norddeutsche Seekabelwerke, Aktie-gesellschaft, for 1902, presented at the recent annual meeting at Cologne, indicates that the new industry in Germany which this company was formed to inaugurate, already is attaining important proportions. The first cable of the Deutsch-Atlantische Telegraphen-Gesellschaft—laid in 1900 from Borkum, Germany, to New York—it will be remembered, was made in England, no facilities then existing for cable manufacture in Germany. On May 31, 1902, a contract was signed for a duplicate cable to New York, to be made by the Norddeutsche company, at the factory it had established at Nordenham, and the manufacture was begun in July. Before the end of 1902 more than 1800 kilometers had been completed and accepted, and up to April of this year 3000 kilometers had been completed, the laying of which was commenced on May 16. For the laying of this cable, and the section yet to be made, an order was given in March 1902, to the "Vulkan" shipyards, at Stettin, for the first vessel to be built in Germany expressly for cable laying. This vessel, designed for carrying 5000 tons of deep sea cable, and named the *Stephan*, was delivered to the Norddeutsche company in March of this year. During the early months of 1902 several small orders were taken by the company, including a three-conductor light cable between Wanderoog and Rothe Sand lighthouse, and the company's first cable ship, *von Podbielski* was occupied 184 days during the year in laying these cables and completing the survey for the duplicate cable to New York. Other important orders are now in hand. In June, 1902, the share capital was increased from 4,000,000 to 6,000,000 marks, fully paid. The profit and loss account for the year shows a surplus of 94,241.55 marks; no dividend was distributed. The assets of the company are reported at 15,695,209 marks. The board includes Max Guillaume and Emil Guillaume, of the firm of Felten & Guillaume, and Franz Clouth, of the Rheinische Gummiwaaren-Fabrik (Cologne).

The German Atlantic cable now in operation, and owned by practically the same interests, has had two years of profitable business, and satisfactory dividends have been paid.

## A RUBBER TRUST IN AUSTRIA?

THE Prague *Tageblatt* contains the following singular news, which should be considered cautiously: "It has been reported for some time that the Austrian rubber manufacturers had decided on a 10 per cent. advance on rubber goods. This advance has not gone into effect because one factory did not abide by the decision. Prices therefore have remained unchanged. The efforts of the rubber manufacturers to organize proceed uninterruptedly, but in a dragging manner. According to the present status a combination is not thought of, but it is intended to form the factories into a trust, as has been done in the fez and glue industries. A short time ago a meeting was held at which the formal proceedings were considered. The factories are called upon to furnish statistics giving the average production and sales of the past years, net profits, etc., in order to strike a basis as to how much capital would be required and what factories are to be operated. The financial end is likely to be looked after by the Vienna Bankverein, several German banking houses being also interested." We very much doubt whether the Austrian rubber industry, which is suffering severely from enormous overproduction, could be benefited by being

formed into a trust, or that the principal factories are unable to see the danger lying in such action—strengthening the weak at the expense of the stronger. Most likely it is only a probing instigated by certain interested banking houses.—*Gummi-Zeitung*.

## RUBBER THREAD IN GERMANY.

AT the yearly general meeting of the Central Society of German Rubber Goods Factories, on June 4, the business report submitted stated that the imperial statistical bureau had been petitioned to report specifically on the imports and exports of rubber threads. The existing classification of rubber threads with rubber sheets and solutions (including Gutta-percha) has proved unsatisfactory, particularly as it has tended to prevent the placing of an adequate import duty upon threads. The president of the statistical bureau had replied, under date of May 13, that in future rubber threads would receive special mention, a classification of them having been made under No. 573 in the new customs tariff.

## ENGLISH HOT WATER BOTTLES.

AT the recent annual chemists' exhibition, in London, Messrs. Currie, Thompson & Co. (36, Ludgate Hill, London) showed hot water bottles, guaranteed for two years against bursting or leaking.—In the April issue of THE INDIA RUBBER WORLD was reported the trial, in Liverpool, of an action at law for damages brought against a chemist in that city by a customer who had suffered from the bursting of a hot water bottle sold by him. The case was decided in favor of the plaintiff, after which the chemist brought an appeal, which now also has been decided against him.

## RAILWAY ENTERPRISE IN AFRICA.

THE Benguela Railway Co. has been registered in Lisbon, to give effect to the concession granted by Portugal for a railway through Portuguese West Africa to Lake Tanganyika, to Robert Williams, a British subject [see THE INDIA RUBBER WORLD, February 1, 1903—page 153]. The requisite capital, £2,000,000, has been underwritten in London. Meanwhile the inauguration of work on the road has occurred, the first spike having been driven by the governor general of Angola. While the primary object of the projected road is the opening up of mines in the Tanganyika region, it will also promote the exploitation of rubber in districts—both in Angola and the Congo Free State—now accessible only by portage.

## GREAT BRITAIN.

GOODRICH solid motor cars are now offered by J. W. & T. Connolly, Limited, King's Cross, N., London who have made a specialty for several years past of solid rubber tires for vehicles.

=A company under the style P. Frankenstein & Sons, Limited, with £50,000 capital, has been registered to acquire the business of P. Frankenstein & Sons, manufacturers of India-rubber and waterproof goods and leather goods, at the Victoria Rubber Works, Newton Heath, Lancashire, and the Arkwright Mills, Manchester. No public issue.

=W. T. Henley's Telegraph Works Co., Limited, on account of having become cramped for space by reason of the growth of their cables and mechanical rubber business at their works in Woolwich, where 1500 hands are employed, have purchased 12 acres of ground at Rosherville, Gravesend, down the Thames, on which it is proposed to erect additional works, to which



will be transferred at first the manufacture of underground and telephone cables. It is stated that the company were obliged to get outside the London district for their works, for the Metropolitan building act did not permit the erection of workshops large enough to carry on the company's work in the most economical manner. The new works will be built principally of iron and glass, on the American principle.

Late advices from Liverpool state that Mr. Albert B. Bussweiler, of the firm of Symington, Bussweiler & Co. has withdrawn, having associated with himself Mr. Arthur Meyer, at one time a partner in the firm of Reimers & Meyer (New York), and will take up the business of importing crude rubber.

=Capon Heaton & Co., Limited, is the style of a new company, with £50,000 capital, registered to acquire and continue the business of the Tubeless Pneumatic Tyre and Capon Heaton, Limited (in liquidation), manufacturers of tires and mechanical rubber goods, at Birmingham. No public issue.

#### GERMANY.

Two brands of American made dress shields (*schweissblätter* in German) are being advertised extensively throughout Germany in all the journals likely to reach the eyes of feminine readers.

=Fire occurred on the evening of July 4 in one of the buildings of the factory of the Actiengesellschaft Metzeler & Co. (Munich), which was consumed together with rubber and other supplies, but the energetic efforts of the firemen saved the other buildings. The loss is covered by insurance, and there will be no interruption of business.

=Felten & Guillaume, Carlswerk, Actiengesellschaft (Mülheim a. Rhein) report net profits during their last business year of 2,443,072 marks [= \$581,451.14], against 561,472 marks for the preceding year. The dividend is 5 per cent., against no dividend in the year before.

#### RUSSIA.

THE Russian-American India-Rubber Co. (St. Petersburg) are the company referred to in the last INDIA RUBBER WORLD as having acquired the rights in Russia to manufacture the Swinehart side wire solid rubber tire for vehicles, under contract with the parties at Akron, Ohio, owning the patents.

=The board of directors of the Russian-French Rubber Co.—"Prowodnik," now consists of Paul A. Schwartz, Th. Henri Schwartz, Wilhelm Vajen, Jacob Erhardt, and Balthazar Herberz; and B. W. Wittenberg and Gustav V. Schöpf, "director candidates."

## REVIEW OF THE CRUDE RUBBER MARKET.

RUBBER is again nearing a basis of a dollar a pound for fine Pará, the market having steadily advanced during the month, and now showing much firmness. Conditions to be considered in predicting the course of the market are that visible supplies of rubber of all sorts are smaller than for a long time past; that the last Pará crop equalled the figures for the preceding year only by including increased receipts of Caucho; that it will be some time yet before the new crop can be availed of to a large extent; that African supplies continue on a reduced scale; and that consumption everywhere is at a liberal rate. Imports into the United States for three fiscal years (ending June 30) have been:

	1901-02.	1902-03.	1902-03.
Pounds.....	55,275,529	50,413,481	54,997,491
Import value .....	\$28,455,353	\$24,899,230	\$30,429,401
Average per lb.....	51.5 cts.	49.4 cts.	55.3 cts.
Fine old Pará Aug 1.....	55@56	74@75	98@99

Following is a statement of prices of Pará grades, one year ago, on January 1 last, and on July 30—the current date:

PARÁ.	Aug 1, 1902.	Jan 1, 1903.	July 30, 1903.
Islands, fine, new.....	66@67	88@89	89@90
Islands, fine, old.....	71@72	91@92	93@94
Upriver, fine, new.....	69@70	90@91	94@95
Upriver, fine, old.....	74@75	95@96	98@99
Islands, coarse, new.....	44@45	60@61	57@58
Islands, coarse, old.....	@	@	@
Upriver, coarse, new.....	55@56	73@74	75@76
Upriver, coarse, old.....	@	@	@
Caucho (Peruvian) sheet.....	47@48	59@60	59@60
Caucho (Peruvian) ball.....	51@52	69@70	71@72

The market for other sorts in New York, in which there likewise is an advance to be noted this month, is as follows:

AFRICAN.		CENTRALS.		EAST INDIAN.	
Sierra Leone, 1st quality.....	83 @84	Ikelemba.....	83 @84	Assam.....	52 @53
Massai, red.....	83 @84	Madagascar, pinky.....	79 @80	Borneo.....	@
Benguella.....	83 @84				
Cameron ball.....	61 @62	Esmeralda, sausage.....	70 @71		
Gaboon flake.....	41 @42	Guayaquil, strip.....	63 @64		
Gaboon lump.....	44 @45	Nicaragua, scrap.....	68 @69		
Niger paste.....	17 @19	Panama, slab.....	56 @57		
Accra flake.....	21 @22	Mexican, scrap.....	65 @66		
Accra buttons.....	59 @60	Mexican, slab.....	56 @57		
Accra sirips.....	62 @63	Mangabeira, sheet.....	53 @54		
1st and best, prime.....	82 @83				
Report strip, do.....	79 @80				

#### Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine .....	5\$675	Upriver, fine.....	6\$400
Islands, coarse .....	3\$075	Upriver, coarse.....	4\$700
Exchange, 12 $\frac{1}{2}$ d.			

#### Last Manáos advices:

Upriver, fine.....	6\$450	Upriver, coarse.....	4\$550
Exchange, 12 $\frac{1}{2}$ d.			

Pará advices report that lately the market there has become more active than for some time past, the better demand having caused considerable firmness and an advancing tendency in prices. The total receipts for the crop year showed a decline, as compared with the preceding year, of less than one-half of 1 per cent., which is more favorable than could have been hoped for during the existence of the troubles in the Acre district and the stoppage of the Bolivian transit. The Acre region, by the way, is still upset in places by the activity of Brazilian revolutionists.

#### Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.			Total 1901.
	Fine and Medium.	Coarse.	Total 1902.	
Stocks, May 31.....	472	69 =	541	895
Arrivals, June .....	419	233 =	652	536
Aggregating.....	891	302 =	1193	1431
Deliveries, June .....	666	220 =	886	552
Stocks, June 30.....	285	52 =	367	879

	PARÁ.			ENGLAND.		
	1901.	1902.	1903.	1901.	1902.	1903.
Stocks, May 30.....	115	80	150	1400	2075	1350
Arrivals, June.....	1770	1240	526	570	886	350
Aggregating.....	1585	1320	676	1970	2961	1700
Deliveries, June.....	1770	1255	639	650	818	675
Stocks, June 30.....	115	65	37	1320	2143	1025

	1903.	1902.	1901.
World's supply, June 30.....	2712	3272	2760
Pará receipts, July 1 to June 30.....	26,546	26,456	23,437
Pará receipts of Caucho, same dates.....	4154	3514	4203
Afloat from Pará to United States, June 30.....	495	284	359
Afloat from Pará to Europe, June 30.....	415	367	460

**Rubber Scrap Prices.**

NEW YORK quotations—prices paid by consumers for carload lots—are again slightly lower, as follows:

Old Rubber Boots and Shoes	Domestic.....	4 1/2	4 1/2
Do	—Foreign.....	5 1/2	5 1/2
Pneumatic Bicycle Tires.....		4 1/2	4 1/2
Solid Rubber Wagon and Carriage Tires.....		7	7
White Trimmed Rubber.....		9 1/2	9 1/2
Heavy Black Rubber.....		4 1/2	4 1/2
Air Brake Hose.....		2 1/8	3
Fire and Large Hose.....		2 1/2	2 1/2
Garden Hose.....		1 1/2	1 1/2
Matting.....		1	1

The market appears likely to remain unchanged during the remainder of the summer.

**Hamburg.**

TRAUN, STÜRKEN & CO. have taken over the business carried on under the name B. Soller Kautschuk-Import-Gesellschaft m. b. H., together with the African branches, known as Prins & Stürken. Senator Dr. Traun and Herr Alfred Stürken are the principal members of the new firm, and Herr Paul Fischer, who will liquidate the firm of B. Soller, has been given procuration.

**Rubber Receipts at Manaos.**

DURING June, 1903, and for the twelve months of the three past crop seasons [by courtesy of Messrs. Witt & Co.]:

FROM—	JUNE, 1903.			JULY-1903.		
	1903.	1902.	1901.	1903.	1902.	1901.
Rio Purús.....tons	26	77	85	5938	6750	6016
Rio Madeira.....	57	88	141	2306	2834	2694
Rio Juru.....	48	54	43	3608	3642	2925
Rio Javary—Iquitos.....	5	3	7	1507	1304	1246
Rio Solimões.....	8	21	11	1372	1551	1183
Rio Negro.....	104	14	13	755	383	521
Total.....	248	257	300	15486	16474	14585
Caucho.....	258	200	167	3612	3485	3786
Total.....	506	457	467	19098	19959	18371

**London.**

EDWARD TILL & CO. [July 1] report stocks:

	1903.			1902.			1901.		
	1903.	1902.	1901.	1903.	1902.	1901.	1903.	1902.	1901.
LONDON { Pará sorts.....tons	—	—	—	—	—	—	—	—	—
Borneo.....	19	122	160	122	160	160	122	160	160
Assam and Rangoon.....	7	16	52	16	52	52	16	52	52
Other sorts.....	198	428	530	428	530	530	428	530	530
Total.....	224	560	742	560	742	742	560	742	742
LIVERPOOL { Pará.....	1328	2051	1034	2051	1034	1034	1328	2051	1034
Other sorts.....	733	984	1352	984	1352	1352	733	984	1352
Total, United Kingdom.....	2285	3695	3128	3695	3128	3128	2285	3695	3128
Total, June 1.....	2248	3687	3502	3687	3502	3502	2248	3687	3502
Total, May 1.....	2539	3788	3597	3788	3597	3597	2539	3788	3597
Total, April 1.....	2525	3326	3522	3326	3522	3522	2525	3326	3522
Total, March 1.....	1939	3078	2979	3078	2979	2979	1939	3078	2979
Total, February 1.....	1921	2674	3129	2674	3129	3129	1921	2674	3129
Total, January 1.....	1582	2794	2901	2794	2901	2901	1582	2794	2901

**PRICES PAID DURING JUNE.**

	1903.	1902.	1901.
Pará fine, hard....	3/10 @ 4 1/2	2/11 1/2 @ 2 1/2	3/8 @ 3 1/2
Do soft.....	3/8 1/2 @ 3 1/2	—	3/8 @ 3 1/2
Negroheads, scrappy...2/11 1/2 @ 3/-	2/4 @ 2 1/2	2/4 @ 2 1/2	2/4 @ 2 1/2
Do Islands.....2/4 @ 2/5	1/11	2/11 @ 2 1/2	2/11 @ 2 1/2
Bolivian.....	No sales.	3/- @ 3 1/2	No sales.

JULY 17.—The market for Pará has been strong, active, and dearer, and considerable business has been done, largely for American account, closing firm. Sales include Madeira spot at 4s. @ 4s. 0 3/4d. and fine old Bolivian 4s. 1d. and buyers. Negroheads continue scarce; scrappy sold at 3s. 1 1/2d. Cametás at 2s. 6d. @ 2s. 6 1/4d and Islands at 2s. 5d. There are no auctions this week. Stocks are very much reduced and good medium kinds are scarce, and dearer.

**Liverpool.**

WILLIAM WRIGHT & CO. report [July 1]:

*Fine Pará.*—The market during the early part of the month was quiet, with little business passing; at the close, however, a good demand has sprung up, and prices have improved fully 1d. per pound. What we have all along maintained is now about taking place, and that is that America would come into this market to buy her surplus requirements, and we look for a decided advance in prices next month. Manufacturers have more or less kept out of the market, believing that prices would react, but the situation is too strong, in our opinion, to allow any serious reaction. The crop is now finished and shows a shortage in Pará grades of about 740 tons, and an increase in Peruvian grades of about 510 tons. Stocks are small and well held, and deliveries good; therefore every-point points to a further advance shortly.

EDMUND SCHLÜTER & CO. report Liverpool stocks:

	May.	June.		May.	June.
Pará—1st hands..	905	856 tons.	Peruvians.....	243	273 tons.
Fine.....	78	48	Africans.....	330	371
Medium.....	81	48	Mollendo.....	141	358 pkg.
Negroheads.....	81	48	Mangabeira.....	91	88
Pará—2d hands..	477	472	Pernambuco.....	15	15
Fine.....	47	445	Manioba.....	*242	59 tons.
Medium.....	47	445	Ceará.....	26	13 pkg.
Negroheads.....	47	445	Assare.....	46	41
Total Pará.....	1402	1328			

JULY 15.—There is good inquiry for Pará sorts, partly from America, and there has been a further small advance to 4s. for new spot and August-September hard fine, at which price there would be buyers at the close. For two months old hard 4s. 0 3/4d. was paid and 4s. 2d. is asked for 1 1/2 to 2 years old. Soft fine spot 3s. 10 1/2d.; August-September 3s. 10 1/4d. paid. Entrefine scarce and wanted; value 3s. 10d for hard. African rubbers scarce and very firm. To day's auctions were unimportant and passed off without much life. Little desirable rubber was offered.

**Bordeaux.**

R. HENRY reports [July 6] an active demand, with business somewhat restricted for want of stocks. One lot of Mayumba (French Congo) rubber, of 3500 kilos, appeared among the sales. Arrivals for June reached 58,600 kilograms.

**PRICES [IN FRANCS PER KILOGRAM].**

Sierra Leone:	Bassam lumps.....	5. @5.65	
Niggers, red I....	9.30 @9.45	Gold Coast lumps.....	5.85 @5.95
Niggers, white I....	9.10 @2.90	Mayumba.....	5.75 @6.10
Niggers, white II....	—	Flakes.....	2. @3.
III.....	5.10 @7.20	Madagascar.....	5.65 @5.10
Twists.....	8.75 @8.75	Colombia scraps.....	7.40 @8.25
Cassamance AP. A....	7.40 @7.80	Colombia slabs.....	6.40 @7.15
Cassamance AM. B....	5. @6.85	Java.....	7.75 @8.

**RUBBER IMPORTS AT BORDEAUX—FOUR YEARS.**

GRADES.	1903.	1902.	1901.	1900.
Soudan twists.....kilos	96,517	94,450	144,200	310,000
Soudan niggers ..	30,242	26,150	33,960	130,000
Conakry niggers.....	—	4,250	2,000	50,000
Gambia ..	41,790	71,667	15,920	135,000
Other sorts.....	7,040	43,015	39,300	53,000
Total.....	175,589	239,532	235,380	678,400

**ARRIVALS FIRST SIX MONTHS OF THIS YEAR.**

Soudan or Conakry kilos..	356,200	Mexican.....	1,500
Cassamance (Gambia)...	77,000	Sundries.....	600
Congo sorts.....	18,000		
Bassam (Gold Coast)....	25,500	Total kilos.....	478,800

Arrivals for the second half of the year are estimated at 214,800 kilos (of which 187,700 kilos Soudan), which would bring the total for the year to 666,500 kilograms [=1,466,300 pounds].

**Antwerp.**

TO THE EDITOR OF THE INDIA RUBBER WORLD: During June two rubber sales occurred, the first on the 19th, when 28 tons were disposed of, and the regular monthly inscription on the 26th, when 322 tons were sold, out of a total of 330 tons offered. Prices showed no change from the preceding month, on the average. The next monthly sale will be held on July 31, when 465 tons will be offered. The statistical tables up to July 1 show practically no change as compared with last year,



namely, imports of 2613 tons since January 1 against 2645 for the same period in 1902. Of this amount 2325 tons were of Congo sorts against 2456 tons of Congos in the first half of last year, showing a shortage in imports of Congo sorts of 931 tons for the first six months of the year. The imports of Congo rubber for the first six months of each year for some time past have been as follows:

	Total.	Congos.		Total.	Congos.
1894.....	72	72	1899.....	1,848	1,605
1895.....	235	235	1900.....	3,011	2,489
1896.....	324	324	1901.....	3,081	2,785
1897.....	749	686	1902.....	2,645	2,456
1898.....	866	745	1903.....	2,613	2,325

C. SCHMID &amp; CO.

ON July 31 the offerings included 465 tons. Details regarding the principal lots, supplied by Messrs. Karcher & Co., are as follows—the sale occurring too late in the month to permit the result of the sale to be reported here:

Brokers' estimation

44,172 kilos Upper Congo Lopori I.....	9.15
10,274 " Upper Congo Lopori I.....	9.20
17,477 " Upper Congo Lopori II.....	7.75
19,594 " Upper Congo Lake Leopold I.....	8.90
43,539 " Upper Congo Lake Leopold II.....	7.50
23,220 " Upper Congo Aruwimi.....	8.50
51,001 " Upper Congo ordinary.....	9.25
8,829 " Upper Congo Mongalla.....	8.75
15,483 " Upper Congo Yengu.....	9.30
13,182 " Upper Congo Aruwimi.....	8.75
15,778 " Congo Kasai black.....	9.25
12,204 " Congo Kasai red.....	9.05
2,848 " Upper Congo Lomami.....	9.30
13,446 " Congo bales.....	8.25
7,299 " Upper Congo Equateur I.....	9.20
7,294 " Upper Congo Equateur II.....	9.
3,000 " French Congo.....	7. @ 8.25
2,342 " Para line.....	10.75
701 " Mangabeira (Matto Grosso).....	7.50

## ANTWERP RUBBER STATISTICS FOR JUNE.

DETAILS	1902	1901	1900	1899
Stocks, May...kilos	342,592	464,675	825,442	877,626
Arrivals in June...	500,222	297,049	537,777	282,176
Congo sorts.....	456,868	277,114	517,896	270,822
Other sorts.....	43,354	20,935	19,881	11,354
Aggregating...	851,814	762,624	1,363,241	1,159,802
Sales in June.....	363,815	80,954	408,662	433,426
Stocks, June.....	487,999	681,670	954,579	726,376
Arrivals since Jan. 1	2,133,320	2,644,808	3,081,392	3,011,463
Congo sorts.....	2,045,254	2,578,114	2,989,026	2,907,816
Other sorts.....	88,066	66,694	92,366	103,647
Sales since Jan. 1..	2,784,032	2,377,847	2,740,852	2,577,078
				1,608,295

## RUBBER ARRIVALS AT ANTWERP.

JULY 13.—By the *Anversville*, from the Congo:

Bunge & Co.....(Société Générale Africaine) kilos	283,000
Do.....(Société Anversoise)	13,400
Do.....Chemins de fer des Grand Lacs	9,900
Do.....(Comite Spécial Katanga)	5,600
Société Coloniale Anversoise..(Belge du Haut Congo)	1,000
Do.....(Sud Kamerun)	10,000
L. & W. Van de Velde.....(Cie. du Kasai)	70,300
Charles Dethier.....(La Haut Sangha)	2,400
Do.....(Société Belgika)	1,400
G. & C. Kreglinger..(Cie. des Caoutchoucs & Produits de La Lobay)	3,600
W. Mallinckrodt & Co.....(Alimaienne)	6,900
	407,500

## PARA RUBBER VIA EUROPE.

July 8.—By the <i>Leuchter</i> = Liverpool	17,500
July 9.—By the <i>Leuchter</i> = Liverpool	17,500
July 10.—By the <i>Leuchter</i> = Liverpool	17,500
July 11.—By the <i>Leuchter</i> = Liverpool	17,500
July 12.—By the <i>Leuchter</i> = Liverpool	17,500
July 13.—By the <i>Leuchter</i> = Liverpool	17,500
July 14.—By the <i>Leuchter</i> = Liverpool	17,500
July 15.—By the <i>Leuchter</i> = Liverpool	17,500
July 16.—By the <i>Leuchter</i> = Liverpool	17,500
July 17.—By the <i>Leuchter</i> = Liverpool	17,500
July 18.—By the <i>Leuchter</i> = Liverpool	17,500
July 19.—By the <i>Leuchter</i> = Liverpool	17,500
July 20.—By the <i>Leuchter</i> = Liverpool	17,500
July 21.—By the <i>Leuchter</i> = Liverpool	17,500
July 22.—By the <i>Leuchter</i> = Liverpool	17,500
July 23.—By the <i>Leuchter</i> = Liverpool	17,500
July 24.—By the <i>Leuchter</i> = Liverpool	17,500
July 25.—By the <i>Leuchter</i> = Liverpool	17,500
July 26.—By the <i>Leuchter</i> = Liverpool	17,500
July 27.—By the <i>Leuchter</i> = Liverpool	17,500
July 28.—By the <i>Leuchter</i> = Liverpool	17,500
July 29.—By the <i>Leuchter</i> = Liverpool	17,500
July 30.—By the <i>Leuchter</i> = Liverpool	17,500
July 31.—By the <i>Leuchter</i> = Liverpool	17,500

## Rotterdam.

THE importation of rubber at this port (mainly from African sources) is carried on by four firms:

Nieuwe Afrikaansche Handels Vennootschap.  
Oost-Afrikaansche Compagnie.  
Société Commerciale du Soudan Français.  
Weise & Co.

The first named company is the oldest trading on the Congo, having established a branch at Boma as early as 1860 and extending their operations up the river with the progress of development in that direction. They were established long before the Belgians entered the field, and notwithstanding the changed conditions, the name of the company and its initials—A H V—continue to be of much influence and very popular with the natives. Arrivals of Congo sorts at Rotterdam take place by the same steamers calling at Antwerp. They are, by the way, not confined to the product of the Congo Free State proper. The figures following indicate (in kilograms) the imports of Congo sorts and also the total imports at Rotterdam for several years past:

	Congo.	Total.		Congo.	Total.
1897.....	467,800	705,650	1900.....	758,300	877,450
1898.....	383,200	656,400	1901.....	899,750	991,700
1899.....	580,950	804,750	1902.....		

## Gutta-Percha.

WEISE & Co. (Rotterdam) report exports from Singapore for the first five months of five years past, as follows:

	1899.	1900.	1901.	1902.	1903.
Tons.....	2645	2114	3035	2821	2645

## IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

July 3.—By the steamer *Benedict*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Cauch.	Total
A. T. Morse & Co.....	79,800	9,400	71,300	44,200=	204,700
New York Commercial Co.	93,600	28,900	56,800	17,500=	196,800
Poel & Arnold.....	6,800	5,700	26,100	.....=	38,600
William Wright & Co....	13,500	1,700	12,000	.....=	27,200
United States Rubber Co.	.....	.....	.....	12,100=	12,100
L. Hageners & Co.....	5,400	800	5,400	.....=	11,600
Total .....	199,100	46,500	171,600	73,800=	491,000

July 13.—By the steamer *Maranhão*, from Manáos and Pará:

New York Commercial Co.	104,400	41,500	54,500	.....=	200,400
A. T. Morse & Co.....	60,400	15,800	72,700	11,500=	160,400
Poel & Arnold.....	18,900	2,900	30,000	13,800=	65,600
G. Amsinck & Co.....	22,900	35,300	23,400	.....=	81,600
Edmund Reeks & Co....	.....	.....	.....	74,200=	47,200
United States Rubber Co.	40,000	2,200	10,700	10,200=	63,100
William Wright & Co....	8,700	1,000	29,600	.....=	38,700
L. Johnson & Co.....	12,100	3,500	5,300	.....=	20,900
Thebaud Brothers.....	9,700	.....	.....	.....=	9,700
L. Hageners & Co.....	4,600	.....	2,400	.....=	7,000
Thomsen & Co.....	1,400	.....	2,600	900=	4,900
Total.....	283,100	102,200	230,600	110,600=	726,500

July 22.—By the steamer *Fluminense*, from Manáos and Pará:

A. T. Morse & Co.....	12,200	1,700	72,200	19,200=	105,300
United States Rubber Co.	65,300	6,300	22,400	.....=	94,000
William Wright & Co....	32,900	6,100	30,700	900=	70,600
New York Commercial Co.	20,300	12,400	10,000	2,500=	51,200
Poel & Arnold.....	9,300	700	18,100	.....=	28,100
Lionel Hageners & Co..	10,600	1,000	4,700	.....=	16,300
Edmund Reeks & Co....	10,600	1,100	1,800	1,000=	14,500
Hagemeyer & Brunn....	2,800	300	1,200	.....=	4,300
Total.....	170,000	20,600	161,100	23,600=	384,300

(Note.—The steamer *Leuchter* at New York on August 1, has on board 100 tons of Rubber and 10 tons of Cauch.)

JULY 6.—By the *Leuchter* = Liverpool:

Poel &amp; Arnold Fine.....

17,500

JULY 13.—By the *Fluminense* = Liverpool:

George A. Alden &amp; Co. Fine.....

71,600

William Wright &amp; Co. Fine.....

22,000

JULY 10.—By the *Leuchter* = Liverpool:

Poel &amp; Arnold Fine.....

22,800

A. T. Morse &amp; Co. Fine.....

22,500

JULY 14.—By the *Saratoga* = Mollendo:

Chicago Bolivian Rubber Co. Fine.....

7,500

Chicago Bolivian Rubber Co. Coarse.....

1,000

JULY 18.—By the <i>Mapache</i> —Liverpool:	
Poel & Arnold—Coarse	11,000
JULY 18.—By the <i>Campagna</i> —Liverpool:	
Poel & Arnold—Fine	192,000
George A. Alden & Co.—Fine	48,000
A. T. Morse & Co.—Fine	11,000 191,000
JULY 20.—By the <i>Guise</i> —Havre:	
Poel & Arnold—Fine	15,000
A. T. Morse & Co.—Canchon	11,200 16,200
JULY 22.—By the <i>Geran</i> —Liverpool:	
George A. Alden & Co.—Fine	14,000
Poel & Arnold—Fine	42,000 56,000

## OTHER ARRIVALS AT NEW YORK

## CENTRALS.

JUNE 24.—By the <i>Athos</i> —Savannah:	
John Boyd, Jr., & Co.	1,500
Roldan & Van Sickle	1,000 2,500
JUNE 24.—By the <i>Barbarossa</i> —Bremen:	
Eggers & Heinlein	3,500
JUNE 29.—By the <i>Comus</i> —New Orleans:	
A. T. Morse & Co.	4,000
A. N. Rotholz & Son	1,200 5,200
JUNE 30.—By the <i>Alhambra</i> —Colon:	
G. Amsbeck & Co.	16,300
Hirzel, Feldman & Co.	13,700
J. A. Paul & Co.	5,300
Roldan & Van Sickle	3,200
Andreas & Co.	2,000
Isaac Brandon & Bros.	2,700
Fidalgue Bros. & Co.	1,600
D. A. De Lima & Co.	2,000
Dumarest & Co.	1,700
A. Santos & Co.	1,800
Lawrence Johnson & Co.	1,000
Jimenez & Escobar	1,200
H. Marquardt & Co.	800
Graham, Hinkley & Co.	700
E. B. Strout	500
Lanahan & Kemp	400
American Trading Co.	600
Eggers & Heinlein	500
Ascenso & Cassio	300
Mecke & Co.	200
L. N. Chemedlin & Co.	300
Mark, Struller & Co.	300 57,700
JULY 2.—By the <i>El Du</i> —New Orleans:	
A. T. Morse & Co.	5,500
JULY 6.—By the <i>Ufian</i> —Bahia:	
J. H. Rossbach & Bros.	40,000
Booth & Co.	15,000 55,000
JULY 6.—By the <i>Esperanza</i> —Mexico:	
E. Steiger & Co.	1,500
H. Marquardt & Co.	1,000
For Hamburg	5,500 8,000
JULY 8.—By the <i>Segurina</i> —Colon:	
Hirzel, Feldman & Co.	6,200
J. H. Recknagel & Co.	3,000
Piza, Nephews Co.	1,500
Silas Elias	700
J. H. Rossbach & Bros.	300
For Antwerp	800 12,600
JULY 9.—By the <i>El Monte</i> —New Orleans:	
A. T. Morse & Co.	5,000
Manhattan Rubber Mfg. Co.	2,000
A. N. Rotholz & Son	1,500
T. N. Morgan	1,000 9,500
JULY 13.—By the <i>Vigilancia</i> —Mexico:	
Harburger & Saack	2,500
F. Probst & Co.	1,200
Thebaud Bros.	500
Graham, Hinkley & Co.	1,000
American Trading Co.	700
H. Marquardt & Co.	2,300
E. N. Hibbald & Co.	500
E. Steiger & Co.	200
Samuels & Cummings	300
For Hamburg	1,500 11,900
JULY 13.—By the <i>Elvira</i> —Liverpool:	
George A. Alden & Co.	10,000
United States Rubber Co.	9,000 19,000
JULY 13.—By the <i>Alleghany</i> —Savannah, etc.:	
D. A. De Lima & Co.	1,500
Kunhardt & Co.	1,300
Lawrence Johnson & Co.	1,700
A. D. Straus & Co.	300
Middleton & Co.	100
G. Amsbeck & Co.	4,500
For Europe	700 10,100
JULY 14.—By the <i>Saratoga</i> —Colon:	
Eggers & Heinlein	2,500
Kunhardt & Co.	2,800
A. M. Capen Sons	2,100

## CENTRALS—Continued.

Lawrence Johnson & Co.	2,600
Isaac Brandon & Bros.	2,400
J. Peters	1,500
Roldan & Van Sickle	1,300
Mecke & Co.	1,100
Jimenez & Escobar	1,100
American Trading Co.	1,000
Ascenso & Cassio	600
A. Santos & Co.	600 18,700
JULY 15.—By the <i>Yacht</i> —Colon:	
G. Amsbeck & Co.	12,100
Hirzel, Feldman & Co.	4,300
American Trading Co.	3,100
H. Marquardt & Co.	2,800
Boek, Andrews & Co.	2,000
Livingstone & Co.	1,500
E. B. Strout	1,500
Lyndell, Heaney & Co.	1,100
Fidalgue Bros. & Co.	700
Stulberts, Vandenbark & Co.	500
Andreas & Co.	300
Meyer Heint	200
For Antwerp	1,500 52,000
JULY 20.—By the <i>Proterus</i> —New Orleans:	
Manhattan Rubber Mfg. Co.	3,000
A. T. Morse & Co.	2,000 5,000

## AFRICANS.

JUNE 24.—By the <i>Oceanic</i> —Liverpool:	
Rubber Trading Co.	11,500
Joseph Cantori	5,000 16,500
JUNE 27.—By the <i>Belgiana</i> —Hamburg:	
Poel & Arnold	24,000
George A. Alden & Co.	14,000
Rubber Trading Co.	13,000 51,000
JUNE 29.—By the <i>Undine</i> —Liverpool:	
George A. Alden & Co.	16,000
William Wright & Co.	6,000
Rubber Trading Co.	4,000 26,000
JULY 1.—By the <i>Pennsylvania</i> —Hamburg:	
Rubber Trading Co.	14,000
Monarch Rubber Co.	5,500 19,500
JULY 6.—By the <i>Liberty</i> —Liverpool:	
George A. Alden & Co.	11,000
H. A. Gould Co.	5,000
A. T. Morse & Co.	4,000 20,000
JULY 6.—By the <i>Prima</i> —Lisbon:	
United States Rubber Co.	225,000
George A. Alden & Co.	11,000 236,000
JULY 6.—By the <i>Zeland</i> —Antwerp:	
Joseph Cantori	8,000
Rubber Trading Co.	3,000 11,000
JULY 9.—By the <i>Patricia</i> —Hamburg:	
Rubber Trading Co.	14,000
George A. Alden & Co.	4,500 18,500
JULY 10.—By the <i>Germania</i> —Liverpool:	
Poel & Arnold	15,000
Rubber Trading Co.	10,000
A. T. Morse & Co.	13,000
Joseph Cantori	10,000 48,000
JULY 13.—By the <i>Philadelphia</i> —London:	
Poel & Arnold	9,000
JULY 13.—By the <i>Liberty</i> —Liverpool:	
William Wright & Co.	20,000
H. A. Gould Co.	4,500 24,500
JULY 13.—By the <i>Frederick</i> —Antwerp:	
Poel & Arnold	250,000
A. T. Morse & Co.	45,000
Rubber Trading Co.	9,000 304,000
JULY 16.—By the <i>Marista</i> —Liverpool:	
Poel & Arnold	10,000
United States Rubber Co.	11,000 21,000
JULY 18.—By the <i>Champion</i> —Liverpool:	
Poel & Arnold	45,000
A. T. Morse & Co.	26,000
George A. Alden & Co.	2,500 73,500
JULY 20.—By the <i>Cliff</i> —Liverpool:	
Poel & Arnold	53,000
Rubber Trading Co.	18,000 71,000
JULY 20.—By the <i>Belgiana</i> —Hamburg:	
Rubber Trading Co.	18,000
JULY 21.—By the <i>Vanderland</i> —Antwerp:	
George A. Alden & Co.	250,000
JULY 22.—By the <i>Oceanic</i> —Liverpool:	
Poel & Arnold	28,000
George A. Alden & Co.	11,000
Rubber Trading Co.	11,000
H. A. Gould Co.	5,500 55,500

## EAST INDIAN.

JUNE 20.—By the <i>St. Paul</i> —London:	
Poel & Arnold	14,000
H. A. Gould Co.	1,500 15,500
JUNE 20.—By the <i>Indra</i> —Singapore:	
Robert Branss & Co.	15,000
William Wright & Co.	7,000 22,000
JULY 7.—By the <i>Indrani</i> —Singapore:	
D. P. O. B. S. S. S.	7,000
JULY 9.—By the <i>Hercules</i> —Cebu:	
Poel & Arnold	1,000
JULY 20.—By the <i>Indra</i> —Singapore:	
Poel & Arnold	8,000
JUNE 20.—By the <i>St. Paul</i> —London:	
George A. Alden & Co.	1,000
JUNE 20.—By the <i>Race</i> —Singapore:	
Robert Branss & Co.	10,000
William Wright & Co.	4,000
Poel & Arnold	2,000
J. H. Recknagel & Co.	10,000 46,000
JULY 6.—By the <i>Indra</i> —Singapore:	
Poel & Arnold	1,000
J. H. Recknagel & Co.	1,000 24,000
JULY 7.—By the <i>Indra</i> —Singapore:	
Robert Branss & Co.	30,000

## GUTTA-PERCHA AND BALATA.

JUNE 16.—By the <i>Master</i> —London:	
To order	4,700
JUNE 27.—By the <i>Belgiana</i> —Hamburg:	
To order	6,000
JULY 6.—By the <i>Africa</i> —Singapore:	
To order	12,700
JULY 7.—By the <i>Indra</i> —Singapore:	
To order	50,000
JULY 9.—By the <i>Patricia</i> —Hamburg:	
To order	6,000
JUNE 29.—By the <i>St. Paul</i> —London:	
Poel & Arnold	1,000

## CUSTOM HOUSE STATISTICS.

## PORT OF NEW YORK—JUNE.

Imports:	POUNDS.	VALUE.
India-rubber	1,172,000	\$1,088,808
Gutta-percha	28,800	28,901
Gutta-jelutong (Pontianak)	2,146,765	51,367
Total	3,347,565	\$1,169,076
Exports:		
India-rubber	8,700	\$ 6,047
Reclaimed rubber		24,865
Rubber Scrap Imported	1,074,880	\$ 71,000

## BOSTON ARRIVALS.

JUNE 1.—By the <i>Castro</i> —Liverpool:	
Poel & Arnold—African	17,000
JUNE 2.—By the <i>Commonwealth</i> —Liverpool:	
Poel & Arnold—African	6,000
JUNE 3.—By the <i>Marista</i> —Liverpool:	
Poel & Arnold—African	1,000
JUNE 13.—By the <i>Indra</i> —Singapore:	
United States Rubber Co.—African	11,300
George A. Alden & Co.—African	11,290 22,590
JUNE 15.—By the <i>Winifred</i> —Liverpool:	
Poel & Arnold—African	1,000
George A. Alden & Co.—African	14,680 28,680
JUNE 16.—By the <i>Liberty</i> —Liverpool:	
George A. Alden & Co.—East Indian	10,415
JUNE 23.—By the <i>Cliff</i> —Antwerp:	
George A. Alden & Co.—African	1,000
JUNE 23.—By the <i>St. Paul</i> —London:	
George A. Alden & Co.—African	1,000
Total	140,711



## JUNE EXPORTS OF INDIA-RUBBER FROM PARA (IN KILOGRAMS).

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Emok, Schrader & Co.	5,950	340	42,060	—	48,350	87,422	7,650	30,740	702	120,514	174,864
Frank da Costa & Co.	24,386	1,602	71,380	150	97,518	53,528	4,628	28,754	—	86,910	184,428
Adelbert H. Alden	33,433	9,520	41,340	160	84,453	51,770	8,970	20,260	1,642	82,642	167,095
Kanthack & Co.	11,670	3,271	2,683	—	17,594	4,332	338	11,006	241	15,917	33,511
Neale & Staats	90	—	13,390	—	13,480	9,408	840	3,160	2,143	15,551	29,031
Denis Crouan & Co.	16,913	2,151	17,450	—	36,514	3,330	168	420	168	4,086	40,600
Pires, Teixeira & Co.	8,061	385	6,143	—	14,589	4,945	—	1,282	—	6,230	20,819
Sundry small shippers	3,390	174	3,902	424	7,890	9,626	507	5,301	520	15,954	23,844
Direct from Itacoatiara	—	—	—	—	—	1,870	170	600	858	3,498	3,498
Direct from Iquitos	—	—	—	—	—	13,784	1,408	4,737	57,787	77,716	77,716
Direct from Manaus	204,741	70,002	81,887	138,375	495,005	107,878	35,944	53,376	245,661	502,859	997,864
Total for June	308,634	87,445	280,205	139,100	815,383	407,891	60,623	159,636	309,722	937,877	1,753,270
Total for January-May	3,704,883	950,704	2,445,930	896,959	8,058,486	4,395,622	528,906	1,163,727	1,972,433	8,065,688	16,124,174
Total for July-December	2,724,574	649,906	2,172,215	78,623	5,625,318	4,011,602	609,423	1,113,862	500,474	6,235,361	11,860,679
TOTAL, CROP YEAR	6,798,091	1,688,055	4,898,350	1,114,701	14,499,197	8,815,120	1,198,952	2,442,225	2,782,629	15,238,926	29,738,123

## EXPORTS OF INDIA-RUBBER FROM MANAOS—CROP YEAR 1902-03.

BY COURTESY OF WITT &amp; CO. [WEIGHTS IN KILOGRAMS.]

EXPORTERS.	NEW YORK.					LIVERPOOL.					HAVRE AND HAMBURG.					GRAND TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Dusendtschon & Co.	1,177,471	505,899	404,551	321,208	2,409,129	1,496,945	94,655	251,654	600,140	2,443,394	256,789	22,578	34,850	54,801	368,968	5,221,491
Witt & Co.	1,211,354	259,521	263,617	378,496	2,115,987	699,001	71,980	130,032	206,702	1,107,715	42,840	4,771	2,332	1,800	51,671	3,275,373
A. H. Alden	1,453,059	309,659	342,534	82,250	2,187,502	447,166	88,300	86,810	111,638	703,934	5,440	5,440	5,520	—	16,400	2,907,836
Andersen & Sons	45,100	21,794	17,646	26,503	111,472	511,192	210,214	119,472	63,981	905,159	73,040	17,555	18,382	1,100	110,077	1,126,708
Neale & Staats	218,620	61,192	70,251	63,315	413,378	197,282	44,146	46,325	103,244	390,997	57,670	9,440	5,170	930	73,210	877,585
Rooks & Aslett	319,029	39,320	82,717	160,244	621,890	11,455	344	2,490	83,932	98,221	—	—	—	—	—	720,111
B. A. Adams & Co.	55,840	8,640	10,440	24,760	99,680	122,000	32,462	28,054	12,423	224,939	—	—	—	—	—	324,619
Brookhurst & Co.	13,686	2,686	2,785	—	19,157	166,414	36,228	33,399	60,137	296,478	1,252	292	137	150	1,831	317,466
Denis Crouan & Co.	106,829	20,477	20,139	5,680	152,725	20,366	3,842	3,814	9,567	37,589	9,000	3,470	6,120	5,930	24,520	214,834
Kahn, Pollack & Co.	—	—	—	10,400	10,400	8,733	1,508	2,366	2,440	15,047	92,261	10,003	27,881	2,396	141,541	156,588
Marius & Levy	—	—	—	—	—	16,711	1,792	2,880	37,700	58,012	11,220	3,606	3,240	45,780	63,346	126,758
Sundry Shippers	130,687	44,264	32,198	9,317	216,466	66,590	16,711	17,251	16,712	117,264	141,817	17,686	31,189	102,766	293,458	627,188
Iquitos, Transit	—	—	—	—	—	304,070	25,800	124,011	503,842	957,723	207,227	24,426	85,004	344,713	662,270	1,619,993
TOTAL	1,735,074	1,293,651	1,246,878	1,082,183	8,357,786	4,092,144	627,982	818,588	1,812,758	7,350,472	808,434	128,267	220,725	559,866	1,807,292	17,516,550

## OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1903	5,143,265	355,912	4,787,353	May, 1903	4,307,632	4,044,768	262,864
January-April	20,072,501	999,095	19,073,406	January-April	20,578,768	13,309,744	7,269,024
Five months, 1903	25,215,766	1,355,007	23,860,759	Five months, 1903	24,886,400	17,354,512	7,531,888
Five months, 1902	24,295,122	1,573,991	22,721,131	Five months, 1902	23,576,224	12,894,896	10,681,328
Five months, 1901	28,805,634	1,327,443	27,478,191	Five months, 1901	22,632,176	12,602,912	10,029,264

GERMANY.				ITALY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1903	3,289,880	1,016,180	2,273,700	May, 1903	171,940	440	171,500
January-April	12,769,240	5,073,640	7,695,600	January-April	640,080	25,960	614,120
Five months, 1903	16,059,120	6,089,820	9,969,300	Five months, 1903	812,020	26,400	785,620
Five months, 1902	12,987,920	4,702,280	8,285,640	Five months, 1902	661,980	93,500	568,480
Five months, 1901	10,606,860	2,774,200	7,832,660	Five months, 1901	711,920	92,840	620,080

FRANCE.				AUSTRIA-HUNGARY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1903	1,244,980	1,100,220	144,760	May, 1903	335,060	—	335,060
January-April	5,559,180	2,779,260	2,779,920	January-April	959,640	12,320	947,320
Five months, 1903	6,804,160	3,879,480	2,924,680	Five months, 1903	1,294,700	12,320	1,282,380
Five months, 1902	8,006,900	3,569,720	4,437,180	Five months, 1902	1,199,440	6,820	1,192,620
Five months, 1901	7,262,780	3,193,080	4,069,700	Five months, 1901	1,062,140	7,700	994,400

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

\* General Commerce.

WILLIAM T. BAIRD, PRESIDENT

ROBERT B. BAIRD, VICE PRESIDENT

# RUBBER TRADING COMPANY

38 MURRAY STREET

NEW YORK

TELEPHONE: 1924 CORTLANDT

161 SUMMER STREET

BOSTON

TELEPHONE: 1599-2 OXFORD

CABLE ADDRESS: CHAUNBAIR, NEW YORK AND BOSTON

# CRUDE RUBBER

*Mention The India Rubber World when you write.*

Rubber Manufacturers desiring the best lead pigment will find Sublimed White Lead most satisfactory for Standard Tire Stocks—and for all other Stocks where toughness and resiliency is desirable and necessary.

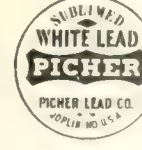
For samples and prices address

## PICHER LEAD CO.,

FOR THE EAST:

100 WILLIAM STREET,  
NEW YORK.

FOR THE WEST:

WESTERN UNION BUILDING,  
CHICAGO.*Mention The India Rubber World when you write.*





# Best Made.

*Mention The India Rubber World when you write.*

## HOLDEN, LEONARD & Co.,

72 LINCOLN ST. BOSTON.

Rain-proof  
Cloths  
in large variety  
of fabrics and  
styles.



New plant  
completed.  
Cloths treated  
for the  
trade.

CORRESPONDENCE INVITED.  
*Mention The India Rubber World when you write.*

## Milford Rubber Company,

**PROOFING HEADQUARTERS** for

**TRIPLEX GOODS** such as **COTTON COVERTS DUCKS**, etc. Also all kinds of **DOUBLE AND SINGLE TEXTURE GOODS** skirt bindings, etc. : : :

Office: No. 65 ESSEX STREET, BOSTON.

Factory: Milford, Mass.

*Mention The India Rubber World when you write.*

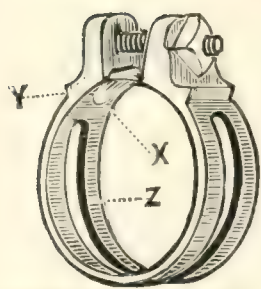
## Conant Rubber Co.,

**DRESS SHIELDS,**  
**NURSERY and**  
**HOSPITAL SHEETING.**

Offices: No. 170 PURCHASE STREET, BOSTON.

Factory: SOUTH FRAMINGHAM, MASS.

*Mention The India Rubber World when you write.*



### Yerdon's Improved Double Hose Band....

SIMPLE, STRONG, SURE.

Send for Sample and Prices.

**WILLIAM YERDON, - Fort Plain, N. Y.**

*Mention The India Rubber World when you write*

"ALL ABOUT INDIA-RUBBER AND GUTTA-PERCHA"

PUBLISHED BY FERGUSON, IN CEYLON.

\$1.75, prepaid, at THE INDIA RUBBER WORLD office.

## PROOFERS OF CLOTH FOR THE TRADE.

## MOULD AND PRESS WORK.

### PLYMOUTH RUBBER CO.

STOUGHTON, MASS.

Manufacturers of "NERV-EZE" whole and lift Heels.

*Mention The India Rubber World when you write.*

ESTABLISHED 1875

## MATTSON RUBBER CO.

No. 26 West Broadway, New York

MANUFACTURERS OF

Dress Shields and Dress Shield Materials

Stamp Rubbers and Sponge Backing

Hat Bags and Hat Manufacturers Rubber Supplies

Erasive Rubbers

All kinds of MOULD WORK

Mixing and Calendering for the Trade

*Mention The India Rubber World when you write.*

## The Atlas Chemical Co.

NEWTONVILLE, MASS.

MANUFACTURERS OF

## SULPHURET OF ANTIMONY

FOR THE RUBBER TRADE.

*Mention the India Rubber World when you write*

## The Akron Commercial Co.,

Animal, Vegetable and Fish Oils,  
Chemicals and Supplies for - - -

## POTTERIES, PLATERS AND RUBBER MANUFACTURERS.

WAREHOUSE AND TRANSFER,

MANUFACTURERS' AGENTS, Etc.

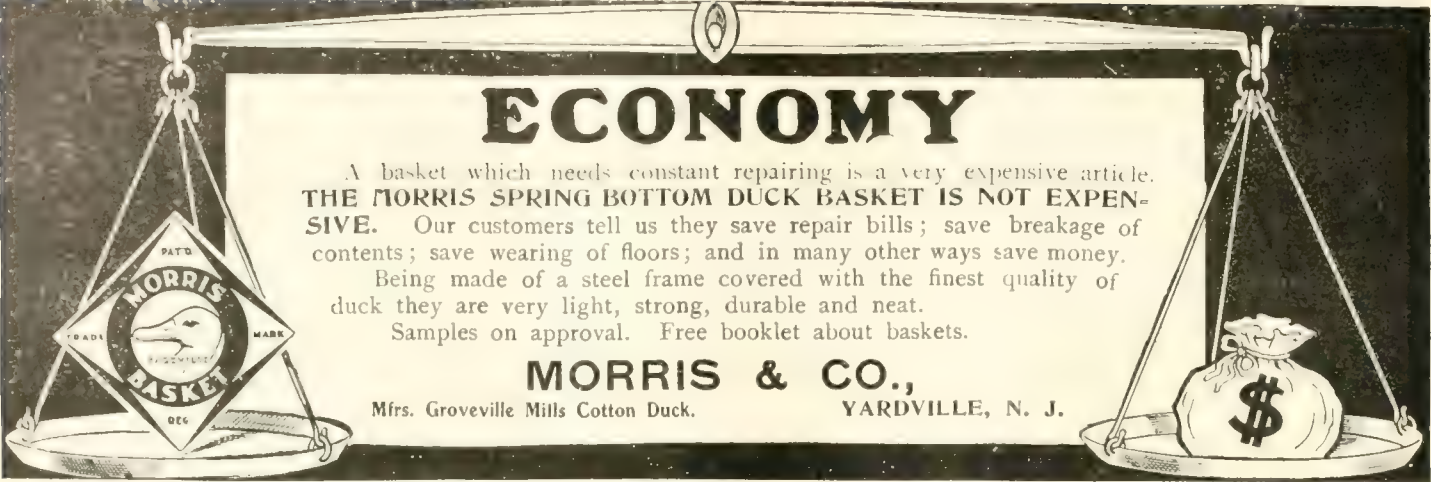
**AKRON, OHIO.**

Office: 366 SOUTH MAIN STREET. Telephone, 894.

Warehouse: WEST CENTER STREET. " 422.

*Mention the India Rubber World when you write*



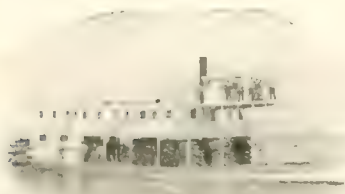


## ECONOMY

A basket which needs constant repairing is a very expensive article. **THE MORRIS SPRING BOTTOM DUCK BASKET IS NOT EXPENSIVE.** Our customers tell us they save repair bills; save breakage of contents; save wearing of floors; and in many other ways save money. Being made of a steel frame covered with the finest quality of duck they are very light, strong, durable and neat. Samples on approval. Free booklet about baskets.

**MORRIS & CO.,**  
Mfrs. Groveville Mills Cotton Duck. YARDVILLE, N. J.

## THE MARINE IRON WORKS



build powerful driving machinery for light draft Stern Wheel River Steamers; such as are most suitable for exploiting the streams used in gathering India-rubber. The firm makes a specialty of this class of work. It also makes a specialty of building Knock Down River

Steamers which they construct up to a carrying capacity of 150 tons.

**STATION A, CHICAGO, ILL., U. S. A.**

*Mention The India Rubber World when you write.*

## W. B. SMITH WHALEY & CO.,

**Mechanical and Mill Engineers,**

1012 TREMONT BUILDING,

BOSTON, MASS.

1328 MAIN STREET,

COLUMBIA, S. C.

**ELECTRIC POWER TRANSMISSION A SPECIALTY.**

Parties interested in electric driven machinery

are invited to correspond with our Boston Office.

*Mention The India Rubber World when you write.*

## William R. Thropp,

Manufacturer of

Rubber Washers, Grinders and Refiners.

Automatic Jar Ring Lathes.

Hydraulic Steam Presses, Vulcanizers.

Moulds and Special Machinery.

Bicycle Tire Moulds a Specialty.

TRENTON, N. J., U. S. A.

*Mention The India Rubber World when you write.*

## MOULDS

Especially Vehicle Tire Moulds

ALSO

Hydraulic and Hand Presses,

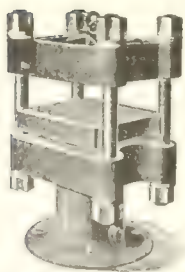
Ring and Disc Cutting Machinery,

Tubing Machines, etc.

THE WILLIAMS FOUNDRY AND MACHINE CO.,

Akron, Ohio.

*Mention The India Rubber World when you write.*



## Embossing Calenders

.. FOR ..

Artificial Leather, Table Oil Cloth and Carriage Covers.

## Drying Machines

with Copper Cylinders for Cotton Duck, Drills and Sheeting.

**THE TEXTILE-FINISHING MACHINERY CO.,**

PROVIDENCE, R. I.

*Mention The India Rubber World when you write.*

## The Tropical Agriculturist.

PUBLISHED MONTHLY BY

A. M. & J. FERGUSON, COLOMBO, CEYLON.

ALL about Tea, Coffee, Cacao, Tobacco, Cardamoms, Cotton, Cinchona, Sugar, Liberian Coffee, India-rubber, Cinnamon, Cassia, Cocoanuts, Palmira and other Palm Trees, Aloes and other Fibre Plants, Rice, Fruit Trees, Vegetables, Citronella and other Grasses yielding Essential Oils, Gum, and other Tropical Products.

Rates of Subscription for America, including Postage.

YEARLY, \$5 50. IN ADVANCE, \$4 50.

HALF YEARLY, \$3 00. " " " \$2 60.

The whole sixteen volumes published can be had for \$38.

## The Ceylon Observer

CIRCULATES throughout the island of Ceylon, and in Southern India. Its Overland Edition circulates extensively in Great Britain and Ireland. Annual subscription, \$15.00. Overland Observer (Weekly), \$8.00. The Advertising Rates are moderate. Special quotations given for Trade Announcements, appearing for a series of insertions.

Maps of Ceylon and Estates, Ceylon Directory, Planting Manuals, etc. Cheques should be drawn in favor of the MANAGER, Ceylon Observer.

*Mention The India Rubber World when you write.*

# RUBBER GOODS

HARD RUBBER GOODS

COTTON RUBBER LINED  
HOSE

LINEN HOSE

Office and Factory  
TRENTON, N. J.

MECHANICAL  
RUBBER  
GOODS

NEW YORK OFFICE  
80 Reade St.

CHICAGO OFFICE  
17 La Salle St.

## JOS. STOKES RUBBER CO.



# THE NEW CENTURY RUBBER CO.

MANUFACTURERS OF

## Reclaimed Rubber

**Facilities:** New factory: machinery, our own design. **Quality:** We claim flexibility, strength and durability. The results of twenty-five years' practical experience. We guarantee our product to be absolutely free from ingredients that are in any way detrimental to the life of manufactured rubber goods.

**WORKS:**

EAST BURLINGTON, N. J.

Address all communications to office:

515 DREXEL BUILDING, PHILADELPHIA, PA.

*Mention The India Rubber World when you write.*

ESTABLISHED 1848.

## TOCH BROTHERS,

468-470-472 WEST BROADWAY, - NEW YORK CITY.

FACTORY: LONG ISLAND CITY.

MANUFACTURERS OF

## Rubber Colors, Pigments and Chemicals

BRILLIANT TILE RED

GREEN for cold and hot cure

BALLOON RED

BLACKS

TILE YELLOW

KINGS YELLOW

WHITES

YALE BLUE

TRUE BLUE

MAROON

ERASER COLORS

BOLIVIAN RUBBER GUM

ANTIMONY SUBSTITUTE No. 504

SPECIAL COLORS FOR TILES.

If you want any special color made to order, communicate with us. If you are interested, send to us for copy of the "Chemistry of Colors," which will be mailed to you gratis.

*Mention The India Rubber World when you write.*

## RUBBER FLUX.

OUR Rubber Flux works as its name suggests. It fluxes refractory mill-stocks, increases their capacity for pigment absorption and assists milling to a remarkable degree.

It *prevents blooming* and does not sweat or blow.

Pronounced by experts the most useful and economical rubber substitute ever produced. Has been thoroughly tested and is generally used. Samples sent on application. Address "Rubber Dept."

MASSACHUSETTS CHEMICAL CO.,

170 SUMMER STREET, BOSTON, MASS., U. S. A.

*Mention The India Rubber World when you write.*

## “SPECIAL”

## Zinc Oxide

for the

## Rubber Trade.

The New Jersey Zinc Company,

11 BROADWAY,

NEW YORK.

*Mention The India Rubber World when you write.*

# TYPKE & KING, INDIA RUBBER CHEMISTS, ETC.

OFFICES, 47 WILSON ST., FINSBURY SQUARE, LONDON, ENGLAND.

JOSEPH CANTOR, AGENT IN U. S., WALLACE BUILDING, 56-58 PINE ST., NEW YORK.

## RUBBER SUBSTITUTES,

MADE FROM REFINED RAPE SEED OIL. FREE FROM ACID.

FINE CHEMICALS FOR RUBBER WORKING, GUARANTEED RELIABLE, AND NOT TO VARY.

## CRIMSON & GOLDEN SULPHURETS OF ANTIMONY.

*Mention The India Rubber World when you write.*

**• PURE •  
SOFT  
SULPHUR**

ESTABLISHED 1841.

INCORPORATED 1897

**Bergen Port  
Sulphur Works**

ORIGINAL MANUFACTURERS  
OF

**PURE SOFT SULPHUR**

PREPARED ESPECIALLY FOR

Rubber Manufacturers.

T. & S. C. WHITE CO.,  
28 Burling Slip, NEW YORK.

*Mention The India Rubber World when you write.*

**BENZOL**

HEADQUARTERS FOR  
**ALL GRADES**  
of Coal Tar Naphtha and  
Benzol.

Samples and prices on application.

CHEM. DEPT.,

**BARRETT MFG. CO.,**  
Philadelphia.

**SULPHUR**

**BROOKLYN SULPHUR WORKS,**  
Manufacturers of

Double Refined and Sublimed  
**FLOUR SULPHUR**

Especially adapted to the use of  
RUBBER MANUFACTURERS  
AND WARRANTED FREE FROM GRIT.

**BATTELLE & RENWICK**  
163 Front St., New York.

First Qualities.  Brand.

## CRIMSON and GOLDEN SULPHURETS OF ANTIMONY

Always contains same constant percentage  
of Free Sulphur.

Action Ges. Georg Egestorff's Salzwerke,  
Linden, near Hanover, Germany.

*Mention The India Rubber World when you write.*

**H. L. TERRY,**

Fellow of the Institute of Chemistry.

Analytical and Consulting Chemist.

Is open to be consulted on all matters relating to the  
technology of India-rubber, and to conduct Analyses  
of Rubber Goods.

LABORATORY:

23 HOPWOOD AVE.,  
MARKET PLACE,

MANCHESTER, ENGLAND.

**New Process Pitch  
from  
Long Leaf Pine**

**E. B. WEED & CO., Fayetteville, North Carolina.**

*Mention The India Rubber World when you write.*

## Chemical Analysis of

Crude materials and Rubber Compounds; Insulating, Waterproofing, Hose,  
Tires, Shoes, Heels, Gaskets, Mats, Bands, Packing, Belting, Unvulcanized, Vul-  
canized, Sulphur, Mineral fillers determined. Substitute, Reclaimed Rubber  
stock. [Member Am. Chem. Soc.; M. S. C. I., London; M. D. C. Gesell, Berlin.]

**DURAND WOODMAN, Ph. D.,**

ANALYTIC AND TECHNICAL CHEMIST,

127 PEARL STREET,

NEW YORK

*Mention The India Rubber World when you write.*

**FOSSIL  
FLOUR**

For reducing cost of

**RUBBER COMPOUNDS**

and improving quality of products.  
Samples and information free.

**THE FOSSIL FLOUR COMPANY**

229 PEARL STREET,  
NEW YORK.

**SUBSTITUTES**

and RUBBER MANUFACTURERS  
SUPPLIES.

**THE STAMFORD RUBBER SUPPLY CO.,**  
STAMFORD, CONN.

P. CARTER BELL, General Manager.

W. F. GILLESPIE, Treasurer.

*Mention The India Rubber World when you write.*



Established 1880

---

Philadelphia  
Rubber Works  
Reclaimed  
Rubber

Philadelphia  
U. S. A.

---

Foreign Representatives:

For Great Britain  
Kuhn & Co.,  
31, Lombard Street, London, E. C.

For the Continent  
H. P. Moorhouse,  
29, Rue des Petites-Écuries, Paris.

# PEQUANOC RUBBER CO.

MANUFACTURERS OF

## Pure Reclaimed Rubber

by an improved mechanical process, without the use of acids, or alkalies. A strictly high-grade superior product, absolutely bone dry, clean and reliable at all times.

Factory and Office: **BUTLER, NEW JERSEY.**

Telephone: 16 Butler.

SAMPLES AND PRICES ON APPLICATION.

*Mention The India Rubber World when you write*

## RAYMOND RUBBER CO.,

MANUFACTURERS OF

NEW YORK OFFICE.

64 STONE STREET.

## RECLAIMED RUBBER,

OFFICE AND FACTORIES, TITUSVILLE, NEW JERSEY.

## NEW JERSEY RUBBER COMPANY,

MANUFACTURERS OF ALL KINDS OF

## RECLAIMED \* RUBBER,

Auxiliary Plant for Trimmings, daily Capacity of 20,000 Pounds. Total daily Capacity 45,000 Pounds.

Office and Factories, **LAMBERTVILLE, NEW JERSEY.**

*Mention The India Rubber World when you write.*

## ORIGINAL IDEAS

Applied to

Rubber Moulds, Matrixes, Special Machines,

- - and - -

Mechanical Problems in  
Rubber Factories.

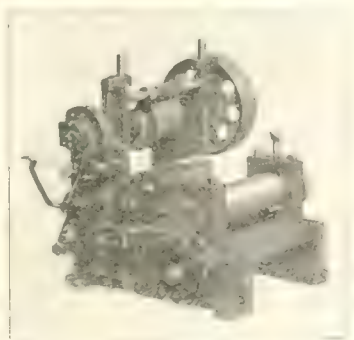
Fine Work a Specialty.

Customers all over  
the World.

Excelsior  
Machine Works,

R. H. PROBERT, Proprietor,

AKRON, OHIO.



AUTOMATIC CUTTER FOR RUBBER TUBING

*Mention The India Rubber World when you write.*

## Recording Thermometers FOR Vulcanizers.



No. 300

Made with extensions to go through wall of vulcanizer and register without the opening of door.

Manufactured exclusively by

## HELIOS-UPTON CO.,

PEABODY, MASSACHUSETTS.

*Mention the India Rubber World when you write.*



ESTABLISHED 1856.

**WILLIAM SOMERVILLE'S SONS,**3, COOPERS ROW,  
LIVERPOOL, ENGLAND.118-120 JOHN STREET,  
NEW YORK, U. S. A.DEALERS IN **SCRAP RUBBER.**  
ALL KINDS OFCABLE ADDRESS: LIVERPOOL MAYFLOWER.  
NEW YORK SOMERVILLE.CODES: A. B. C.  
LIEBERS.*Mention the India Rubber World when you write.***E. BERS & CO.,**

ESTABLISHED 1890.

CABLE ADDRESS:

BERSANDO, PHILA.

CODES, A B C, 4TH ED., AND PRIVATE.

NEW YORK HOUSE,  
10½ DESBROSSES ST.

COMMISSION MERCHANTS AND DEALERS IN

**SCRAP RUBBER,**

FOREIGN AND DOMESTIC CORRESPONDENCE SOLICITED.

22 AND 24 So. DELAWARE AVE., PHILA.

*Mention the India Rubber World when you write.***WM. H. CUMMINGS & SONS**  
**BUY AND SELL RUBBER WASTE.**Cable Address,  
UNITMOSQUE.

P. O. Box 732.

54-56 Harrison Street, New York, U. S. A.

*Mention The India Rubber World when you write.***THEODORE HOFELLER & CO.,**

Nos. 98, 100 and 102 TERRACE, BUFFALO, N. Y., U. S. A.

FOREIGN AND DOMESTIC CORRESPONDENCE SOLICITED.

Cable Address, HOFELLER, BUFFALO.

A. B. C. and Lieber's Codes Used.

**LARGEST DEALERS IN OLD RUBBER IN THE WORLD.***Mention the India Rubber World when you write.***FEIST STRAUSS,**EXPORTER OF **WASTE RUBBER and OLD GOLOSHES,**IMPORTER OF **RECLAIMED RUBBER.**

Hasengasse 12, FRANKFORT-ON-MAIN, GERMANY.

Cable Address: "Gutta-Frankfurtmain."

A B C Code, Lieber's Code.

CORRESPONDENCE SOLICITED.

*Mention The India Rubber World when you write.***S. BIRKENSTEIN & SONS**

BUY AND SELL

All kinds of **RUBBER SCRAP**

48-50-52 Michigan St., CHICAGO

*Mention The India Rubber World when you write.***SALOMON BROS. & CO.,**

99 NASSAU STREET,

NEW YORK.

All kinds of **RUBBER SCRAP,**

Boots and Shoes, Solid and Pneumatic Tires,

Air Brake Hose, Buffers, Heavy Rubber.

*Mention The India Rubber World when you write.***NEW YORK CITY**

The firm of W. C. Coleman Co., late of Boston, dealers in all kinds of scrap rubber, are now located in New York City, at No. 154 West Broadway.

THEO. S. BASSETT, President.  
MAX LOEWENTHAL, Treasurer.

R. A. LOEWENTHAL, Vice President.  
WALTER T. ROSEN, Secretary.

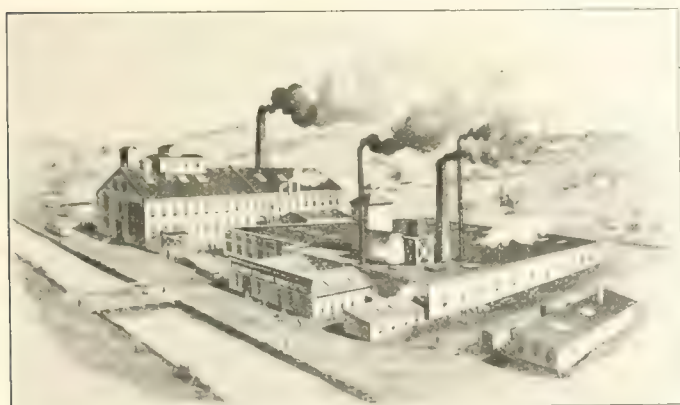
# U. S. RUBBER RECLAIMING WORKS.

## Manufacturers of RECLAIMED RUBBER.

Offices: No. 127 DUANE STREET, NEW YORK.



FACTORY AT BUFFALO, N. Y.



FACTORY No. 1, SHELTON, CONN.



FACTORY No. 2, SHELTON, CONN.

NEW ENGLAND REPRESENTATIVE:

OTTO MEYER, No. 161 Summer Street, Boston.

FOREIGN REPRESENTATIVES:

WM. SOMERVILLE'S SONS, 3, Cooper's Row, Liverpool, England.

Great Britain and the Continent of Europe.

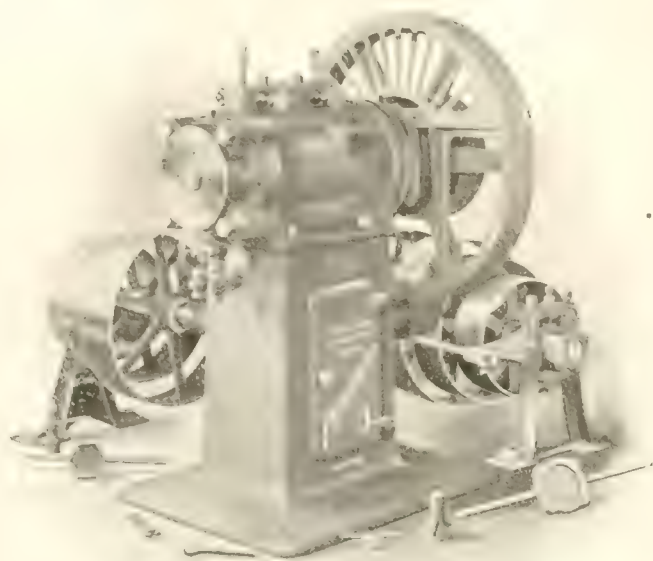
G. BRICE, 92, Rue de la Victoire, Paris, France.

Seul Agent Dépositaire. France and Belgium.

*Mention The India Rubber World when you write.*



# RUBBER TUBING WORK



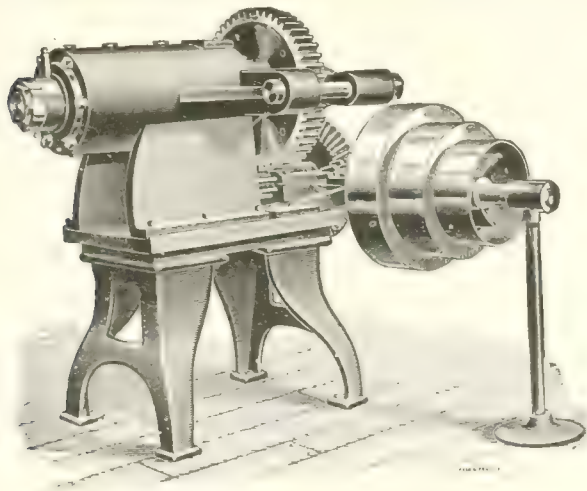
most nearly approaches perfection in our Perfected Tubing machines. These machines are notable both for the perfection of their work and their great capacity. One of them will equal in output a half-dozen ordinary machines, and with output a vital factor in the competition for business they become great profit earners.

**JOHN ROYLE & SONS, Paterson, N. J., U. S. A.**

*Mention The India Rubber World when you write.*

## CLARK'S Reliable Tubing Machine

FOR THE MANUFACTURE OF RUBBER TUBING AND CORD,  
And also the Covering of Electrical and Telephone Cables.



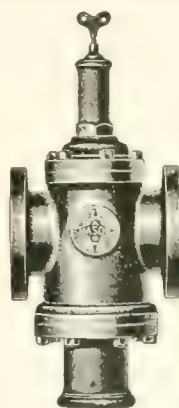
MANUFACTURED IN 4 SIZES BY

**EDRED W. CLARK, MACHINIST,**

Rubber Moulds and Rubber Machinery, Screw and Hydraulic Presses a Specialty.

**No. 31 WELLS STREET, HARTFORD, CONN.**

*Mention The India Rubber World when you write.*



## THE MASON Reducing Valves

ARE THE WORLD'S STANDARD VALVES.

For automatically reducing and absolutely maintaining an even steam or air pressure.

*They are adapted for every need and guaranteed to work perfectly in every instance.*

WRITE FOR FULL INFORMATION AND  
VALUABLE REFERENCES.

**THE MASON REGULATOR CO. Boston,  
Mass., U.S.A.**

## Journal d'Agriculture Tropicale, AGRICULTURAL, SCIENTIFIC, COMMERCIAL.

PUBLISHED BY

**J. VILBOUCHEVITCH,**  
10, Rue Delambre, Paris, (France.)

**Subscription: ONE YEAR, - : : 20 FRANCS.  
SIX MONTHS, - : : 10 FRANCS.**

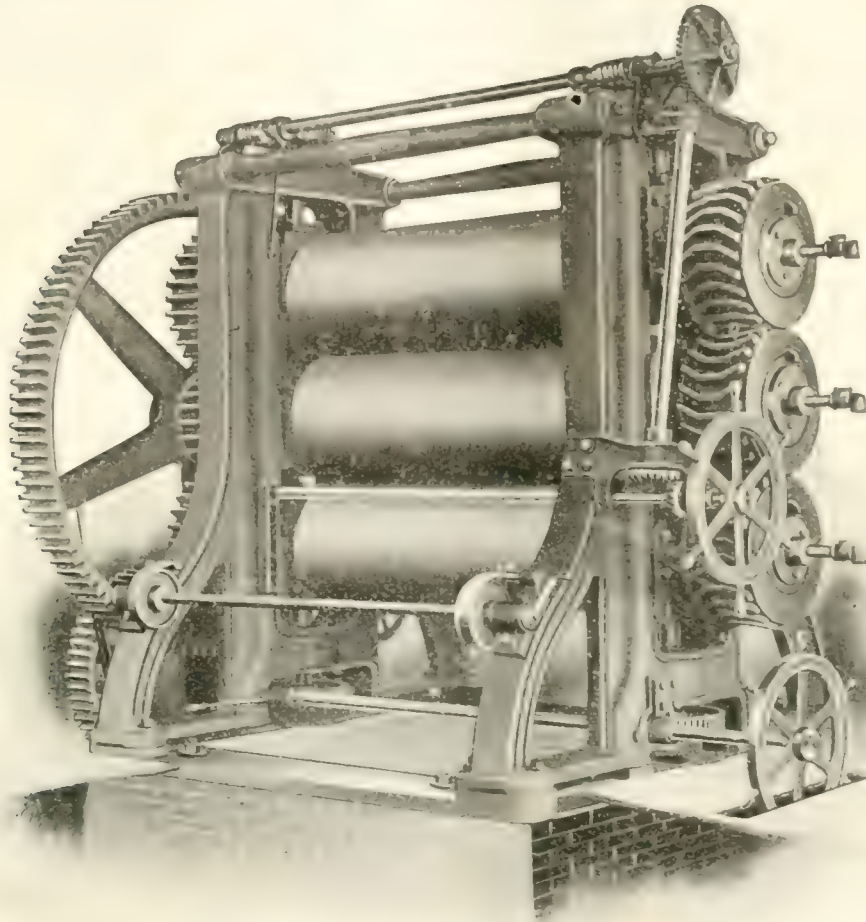
THE JOURNAL OF TROPICAL AGRICULTURE deals with all branches of tropical cultivation, giving prominence to the planting of Caoutchouc and the scientific study of Caoutchouc species. The JOURNAL is international in character, and is planned especially to interest readers in all lands where the French language is spoken or read.

*Mention The India Rubber World when you write.*

# BIRMINGHAM IRON FOUNDRY

DERBY, CONN., U. S. A.

Oldest and Largest Makers of RUBBER MILL MACHINERY in the United States.



THREE ROLL CALENDER.

**CALENDERS - GRINDERS - MIXERS**  
**WARMERS - WASHERS - REFINERS**  
**HYDRAULIC PRESSES - HOSE MACHINERY**  
**SPECIAL MACHINERY**

*Mention The India Rubber World when you write.*



# AMERICAN TOOL<sup>and</sup> MACHINE CO.

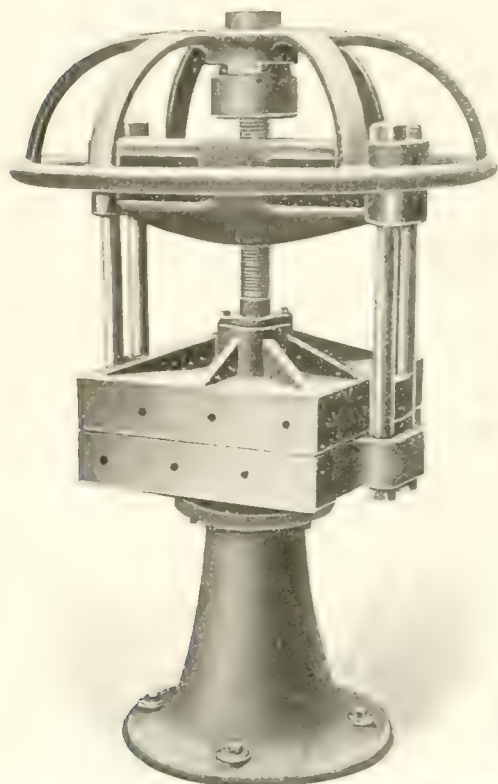
109 Beach St., BOSTON, MASS.

## Double and Single End Spreaders, Doubling Machines, Churns etc.

Write for Catalogue and Prices

*Mention The India Rubber World when you write*

### 20 x 20 HAND PRESS



*Mention The India Rubber World when you write.*

Note  
Improved  
Hand  
Wheel,  
also  
Rigid Base.

We make  
various kinds  
of improved  
Rubber  
Working  
Machinery.  
Particulars  
if you  
please.

**A. ADAMSON,  
AKRON, O.**

Handwork is costly  
and inaccurate.

Anything that the hands can do  
can be done by Machinery.

No Problem is too Difficult for us.

Do you want a Machine for any  
Purpose in Rubber Work?

Write to us and we will Produce it.

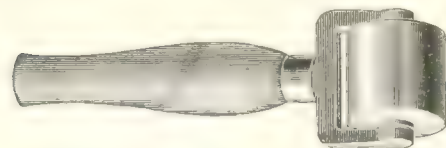
**WELLMAN SOLE CUTTING MACHINE CO.,  
MEDFORD, MASSACHUSETTS.**

A. M. STICKNEY, President.

EDWARD BROOKS, Treasurer.

*Mention The India Rubber World when you write.*

HAND ROLLERS, Metal or Rubber.



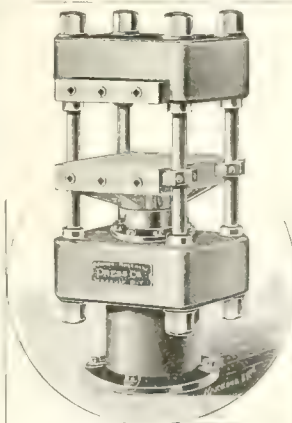
CALENDAR ROLL  
ENGRAVING,  
MOLDS, etc.

CUTTING DIES, ALL KINDS.

**The HOGGSON & PETTIS MFG. CO.,  
NEW HAVEN, CONN., U. S. A.**

*Mention The India Rubber World when you write.*

HAND STITCHERS,  
DOUBLE, SINGLE,  
PLAIN and FANCY.  
Any kind to order.



### STEAM PRESS

◆ FOR ◆  
MECHANICAL GOODS.

HYDRAULIC OR . . .  
KNUCKLE JOINT.

WRITE FOR PRICES.

**BOOMER & BOSCHERT PRESS CO.,  
336 West Water Street,  
SYRACUSE, N. Y.**

*Mention The India Rubber World when you write.*

ESTABLISHED 1848.

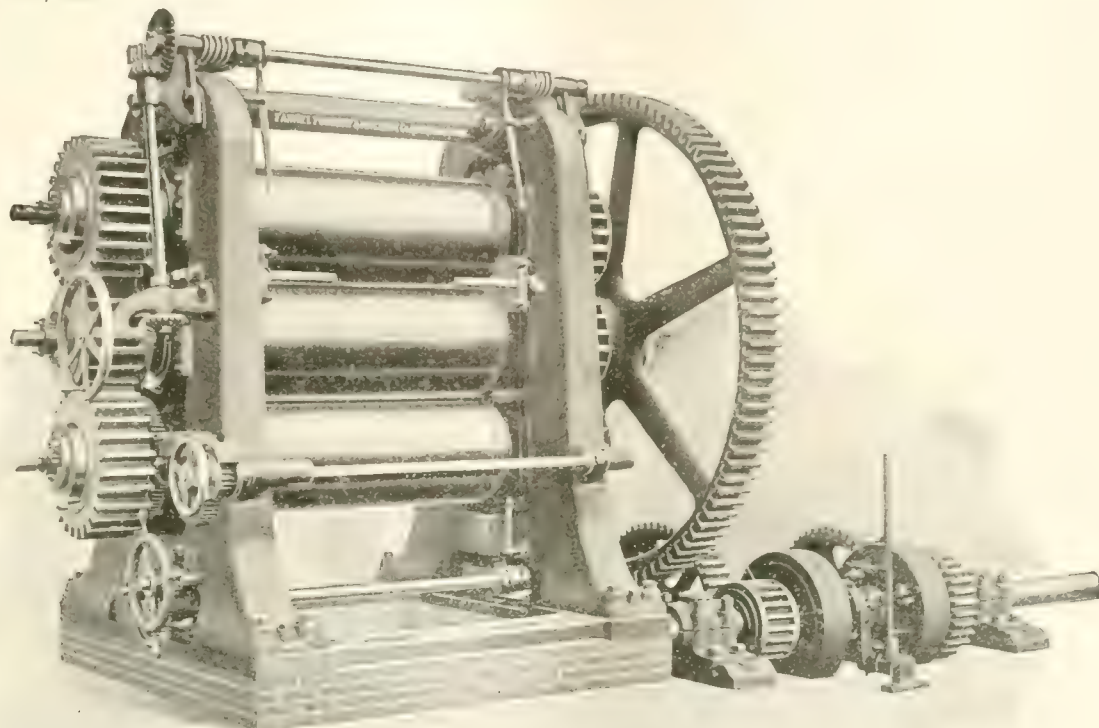
# Farrel Foundry and Machine Co.,

Largest Manufacturers in the World of

# Rubber Machinery.

FRANKLIN FARREL, PRES.  
CHARLES F. BLISS, TREAS  
FRANK E. HOADLEY, SEC

ANSONIA, CONN., U. S. A.



STANDARD THREE ROLL CALENDER.

CALENDERS, GRINDERS, MIXERS, CRACKERS, WASHERS,  
WARMERS and REFINERS.

HYDRAULIC BELT PRESSES, with Hydraulic Stretchers,  
MULTIPLE HEEL and SCREW PRESSES, PUMPS,  
ACCUMULATORS and FITTINGS.

---

LINOLEUM MACHINERY—Calenders, Grinders, Mixers, etc.  
Cabling, Winding, Spooling and Measuring Machines for Insulated Wire.  
Chilled Iron and Sand Rolls of all sizes, Steel and Wrought Iron Rolls.  
Shafting, Machine Moulded Gearing, Friction Clutches, etc.



**\$1,500,000**  
**TEN YEAR 6 FIRST MORTGAGE SINKING FUND**  
**GOLD BONDS OF**  
**THE CONSOLIDATED UBERO PLANTATIONS COMPANY**

DUE JULY 1, 1912

INTEREST PAYABLE JAN. 1 AND JULY 1

PRINCIPAL AND INTEREST PAYABLE AT THE

**INTERNATIONAL TRUST COMPANY, BOSTON**

Bonds issued in Coupon Form With Privilege of Registration as to Principal. Each \$500 Bond Carries with it \$400 of Stock

**AS A BONUS****DIRECTORATE**ARTHUR W. STEDMAN, *President*. Of the firm of George A. Alden & Co., Importers of Crude Rubber, Boston, Mass.FREDERIC C. HOOD, *Vice President*. Treasurer of the Hood Rubber Co., Boston, Mass.HON. U. Z. WILEY, *Treasurer*. Chief Justice of the State Appellate Court of Indiana, Indianapolis, Indiana.WILLIAM D. OWEN, *Director*. Ex Secretary of State of Indiana, Indianapolis, Indiana.SEÑOR THOMAS MORAN, *Director*. Member of the House of Deputies, and Director of the New York Life Insurance Co. in Mexico. Mexico City, Mexico.HON. LIC. ALZONO MARISCAL, *Director*. Prominent Attorney and Financier; Son of the Vice President of the Republic, Mexico City, Mexico.CHARLES A. MUEHLBRONNER, *Director*. Proprietor Iron City Produce Co., Importers of Foreign Fruits, Director German National Bank and Western Savings Bank, Pittsburgh, Pa.

**I**N order that the bond holders and stockholders may have as wide a representation as possible, an Advisory Board, composed of twenty-one representative business men, has been formed. These gentlemen will pass upon all questions of importance and make such recommendations to the Board of Directors as may seem warranted in each case.

Five Hundred Thousand Dollars (\$500,000) of this allotment of bonds, is offered for cash and the remaining One Million Dollars (\$1,000,000) on 45 monthly payments. Each payment as made, is secured by issuing to the purchaser a 6 per cent. First Mortgage Sinking Fund Gold Note. These notes recite upon their face that when a purchaser has \$500 worth of them he may exchange them for One (1) \$500 6 per cent. First Mortgage Gold Bond at the INTERNATIONAL TRUST COMPANY, Boston, and receive, at the time of exchange, an equal bonus of stock.

The business of the Company is the growing and marketing of all tropical products, including Oranges, Lemons, Grape and other Citrus Fruits, Yucca, Coffee, Rubber, Pineapples, etc.

The bonds and notes are secured by a First Mortgage upon all the assets of the Company, real and personal, including 6000 acres of land, 1600 of which is under cultivation; a General Store, Merchandise, Residences, Administration Building, Starch Mill, Pineapple Cannery, Tin Can Factory, Bank, Laborer's Quarters, Warehouses, Live Stock, Mules, Cattle, etc., etc., together with all the necessary equipment and machinery to carry on the business of the Company.

**The present actual cash value of the property is \$1,011,062.50.** The money realized from the sale of bonds now offered will be used for further development and acquisitions. The property is located in the richest agricultural district of Mexico, on the Tehuantepec National Railroad, equi-distant from the Gulf of Mexico and the Pacific Ocean.

Yearly Estimated Profits: Guaranteed Interest on Bonds 6 per cent.; Estimated Earning on Stock 3 per cent.; Total 9 per cent. As more development is made and as more crops come into bearing each year, it is confidently expected that the earnings will gradually increase.

We desire to call attention to the fact that the management of THE CONSOLIDATED UBERO PLANTATIONS COMPANY has financed a number of similar propositions in the past. Notably among these are UBERO PLANTATION COMPANY OF INDIANAPOLIS, now in its fourth year and which has paid successively 10, 15 and 20 per cent. the last three years. Also, THE UBERO PLANTATION COMPANY OF BOSTON, which paid a 10 per cent. dividend December 31, 1901, and has declared a dividend of 10 per cent., payable December 31, 1902. Both of these properties are contiguous to those of this Company.

The proposition to the public is a very simple one. You purchase of the Company one bond for each \$500. You can make this purchase for cash or at the rate of \$5 or more per bond, per month. The Company gives you a First Mortgage upon all of its assets, real and personal, to secure whatever money you invest in its bonds. These bonds are due in ten years, but as 70 per cent. of the net earnings each year are paid to the INTERNATIONAL TRUST COMPANY, Boston, Mass., for the redemption of the bonds, some bonds will be redeemed on the first day of each January. This is decided by lot so that your bond may be redeemed on the first day of any January. With each \$500 bond which you purchase, **the Company gives you \$400 of stock as a bonus**, so that when your bond has been redeemed, you still have your investment in the Company represented by your bonus of stock, *which has not cost you a single cent of your own money*. The stock issued as a bonus to the bond purchasers is now earning 3 per cent., and naturally participates more largely in the earnings of the Company after the bonds have been paid, because none of the profits of the Company will then be required to pay interest on the bonds. So that, if no further development was made this same stock will then earn 9 per cent. This, however, must of necessity increase as new crops come into bearing.

For further information, prospectus, copy of legal opinion as to the validity of issue of these bonds, or for blank forms of application, apply in person or by letter to

**THE CONSOLIDATED UBERO PLANTATIONS COMPANY,**  
**No. 89 STATE STREET, BOSTON, MASS.**

ESTABLISHED 1855.

**Geo. A. Alden & Co.,**

IMPORTERS OF

**India Rubber and  
Gutta Percha,  
170 SUMMER STREET,  
BOSTON.**

*Mention The India Rubber World when you write.***BARATA & SALVADOR,**

Caixa Postal 380, - MANAOS (Brazil).

IMPORT AND EXPORT MERCHANTS.

SPECIALTIES IN

**Rubber, Balata, Cocoa,**

Piassaba, Hides, Egret Plumes, Balsam of Copaiba,

Andisoba, Tonka Beans, Vanilla, Brazil Nuts, etc.

*Mention The India Rubber World when you write.*

**India=Rubber (Crude)  
OTTO MEYER,**

New England Representative,

**A. T. Morse & Co.,**

New York.

No. 161 Summer St.,  
BOSTON, MASS.



Telephone: 543 OXFORD.

Cable Address: MYERO.

*Mention The India Rubber World when you write.*

**Would-be Rubber Planters  
May Save Money.**

A SHMORE RUSSAN, of 46, Leadenhall street, London, England, expert in the cultivation of tropical products, as Coffee, Cacao, Sugar-cane, Tobacco, etc., with special knowledge of India-rubber cultivation and collection in Mexico, Brazil, Africa, etc., is open to examine and report upon virgin lands or plantations in any part of the world. Terms, references, and specimen reports on application, as above.

 **We Manufacture Our Products by Mechanical Means.** 

**THE BLOOMINGDALE SOFT RUBBER WORKS,**

Manufacturers of

**THE FINEST GRADES OF****Reclaimed and Devulcanized Rubber****FOR****Manufacturing and Mechanical Purposes,****BLOOMINGDALE, N. J.***Mention The India Rubber World when you write.*



## Small Advertisement Department.

### SITUATIONS WANTED.

A MIDDLE AGED MAN who has had ten years' experience in the wholesale and retail Rubber Business, both on the road and inside, is open for a position. Best of references. Address G. S. S., care of THE INDIA RUBBER WORLD. [416]

A FRENCH mechanical engineer and chemist, employed for several years in the Caoutchouc industry, in an important establishment, and desiring to remove to America, seeks a position in a rubber factory in the United States or Canada. Address J. J. L., care of THE INDIA RUBBER WORLD. [424]

CALENDER MAN, with 20 years' experience in the rubber line, would like a good position. Having been running Calenders for six years in Germany, and for the last eleven years I have been running a calender for Druggists' Sundries, as well as for Tires, Valves, etc. Can furnish best references. Address I. R., care of THE INDIA RUBBER WORLD. [423]

SUPERINTENDENT of large mill with long experience in all branches, desires to change. Address P. C. H., care of THE INDIA RUBBER WORLD. [417]

SUPERINTENDENT.—A man of unquestionable ability in manufacturing Mechanical Rubber Goods, Druggists' Sundries, and Tires of all descriptions, wishes to form new connection; willing to assume all responsibilities and guarantee the best of results compatible with given facilities. Best of references from last employers. Address SELF RELYING, care of THE INDIA RUBBER WORLD. [366]

YOUNG MAN with some experience at selling goods, and having a month's vacation, would like to introduce a good line to England. No salary expected; expenses must be paid. Can give references as to character from some of the most prominent persons in the country. Address M. D. S., care of THE INDIA RUBBER WORLD. [418]

YOUNG MAN, in the rubber business several years, wishes a position as assistant Superintendent, general or special foreman; cotton and rubber hose expert; improved method of reclaiming rubber. Information and sample sent to those who are interested; mean business. Address J. L., care of THE INDIA RUBBER WORLD. [425]

### SITUATIONS OPEN.

FOREMAN for Moulded and Cut Goods department; must have schedules and compounds for making valves, springs, gaskets, rings, billiard cushions, washers, jar rings, tubing, typewriter platens, and all varieties and grades of moulded specialties. Give age, length of experience, and where or now employed, and other details when you reply to A. R., care of THE INDIA RUBBER WORLD. [426]

GOOD position open for a man who understands the vulcanization of rubber and the mixing of colors, particularly for dental gum and dam. Address G. R., care of THE INDIA RUBBER WORLD. [427]

MANAGER.—A Manager wanted for the rubber supply department of an oil house. Must have experience in the chemicals, colors, fillers, and substitutes used by Rubber Manufacturers, but does not have to be posted on Crude Rubber. Applicant must give full account of his past and mention the salary he wants. Address SUPPLIES, care of THE INDIA RUBBER WORLD. [396]

MECHANICAL Rubber Goods manufacturer (with leading specialty) now selling on repeat orders the very largest railroads and manufacturing concerns, desires representative. Prefer experienced man having established trade, or would arrange with traveling man having established trade in mill supplies. A-I references required. Address Box 441, Trenton, N. J. [410]

SALESMAN.—Wanted, an energetic salesman with experience in Druggists' Sundries line, who is willing to make an investment. A good chance for right party. Address "31," care of THE INDIA RUBBER WORLD. [420]

WANTED.—Good Calender man who has had experience in running friction and good grades of rubber stock. Steady work at good wages. Address CALENDER, P. O. Box 1043, New York City. [380]

**WANTED**—Man who knows something about rubber to dispose of bonds and stock of the Cosonez Plantation Company, 1028 Citizens' Building, Cleveland, Ohio. The investment will earn 11 per cent. this year. The company will begin gathering rubber in November. Corporation organized by Cleveland bankers. References, Dun or Bradstreet's. [421]

WANTED, at once, first class man competent to take charge of Mill and Calender room of Druggists Sundries plant; must be experienced on fine calender work, and have good knowledge of compounding. A good opening for the right man. Address, stating salary expected, "M," care of THE INDIA RUBBER WORLD. [422]

### FOR SALE.

FOR SALE.—One Wright Engine, 26" bore, 48" stroke; six Calenders, twenty Grinders, Crackers and Washers; one 3 ft. 6" x 10 ft. Hydraulic Press, with corrugated plate; two 5 ft. x 20 ft. Devulcanizers, to stand 125 pounds pressure; three 3 ft. x 10 ft. Vulcanizers; two 1½ ft. x 10 ft. experimental Vulcanizers, cast iron doors and hinges; one 250 pound pressure Tank; three buhrstone mills; Rubber Shakers; two automatic Box Nailing Machines, practically new, will turn out five wooden shoe boxes a minute. Other Rubber Machinery for sale. Must be sold at once. PHILIP MCGRORY, Trenton, N. J. [413]

MILLS, Calenders, and Presses—second hand, but not scrap iron. W. C. COLEMAN CO., No. 154 West Broadway, New York. [428]

### FOR SALE.

ALL KINDS RUBBER WASTE.—We sell at low price, pure unvulcanized Rubber Scrap from Cement Waste. Write for free sample. Best cash prices paid for rubber scrap and waste. Old Wringer Rolls bought and sold a specialty. UNITED STATES WASTE RUBBER Co., No. 487 N. Warren avenue, Brockton, Mass.

### BUSINESS OPPORTUNITIES.

A MANUFACTURER and dealer in Rubber Substitutes and Golden Sulphurets of Antimony wishing to enlarge his line, would like to hear from parties, having for sale materials used in Rubber Compounding. Will either buy on own account or take agency. Address BUSINESS, care of THE INDIA RUBBER WORLD. [415]

THE COLONIAL RUBBER CO., Rushcutter's Bay, Sydney, New South Wales, are about to open a shop in one of the main streets of Sydney, and as their present works until the necessary additions can be carried out, will not be capable of supplying the whole of the stock required, they are desirous of getting in touch with American manufacturers with a view of buying in the best market. They would be pleased to receive price lists, etc. [414]

### DR. PETER T. AUSTEN

COUNSEL AND EXPERT IN MANUFACTURING CHEMISTRY  
Processes, Products, Patents, Wastes, Costs, Nuisances, etc. Experimental Tests and Investigations. Expert in Patent and Technical Litigation.  
89 PINE STREET, NEW YORK

**Herbert S. Kimball,** 101 Tremont Street, Boston, Mass.  
**Chemical Engineer and Mill Architect,**  
Engineering Problems Relating to the Rubber Industry.  
Designs for Buildings and Equipment.

*Mention The India Rubber World when you write.*

### BY RETURN MAIL

Subscribers can learn where to buy any article or class of goods from the manufacturer, publisher or importer per conditions page one, each issue. On trial six months 10 cents. None free under any pretext.

GENERAL INFORMATION, 307 Main St., Binghamton, N. Y.

*Mention The India Rubber World when you write.*

**A**N expert in the exploitation of "Hevea" rubber, having finished long engagement in Central South America, is open to a new engagement, either in the Amazon Valley or in the British East Indies. Can supply unexceptionable references. Address EXPERT, care of "The India Rubber World."

## Crude Rubber and Compounding Ingredients.

A Text Book of Rubber Manufacture.

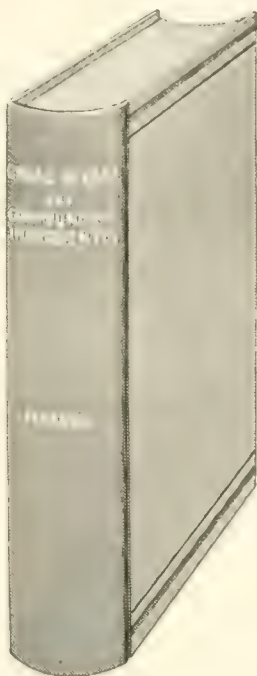
By HENRY C. PEARSON.

It is often a great convenience to have at hand, in convenient form for reference, a book that will remind a man of something which he needs to make use of in his work or business, without waiting to ransack his memory for it no matter how well he may once have learned it. "Crude Rubber and Compounding Ingredients" has been designed to serve just such a purpose. In fact the book was a gradual development of a manuscript reference book originally compiled by the author for his personal use alone. Finding how convenient it was to be able to turn to such a book, instead of having to depend on memory alone for the information it contained, the idea suggested itself that possibly others interested in the rubber industry might find these notes equally serviceable, and this is why they have been developed into a book. The reception of the book has been encouraging, and it may interest some who do not yet possess a copy of the book to know how some practical rubber workers regard it.

A superintendent writes: "It is a work that I want on my desk all the time, as it is surprising how often one wants to refer to it."

The manager of an important concern writes of the book: "Its value has grown on me; I now keep it by me in the factory and use it constantly, both for reference and suggestion."

THE INDIA RUBBER PUBLISHING CO.,  
No. 150 Nassau Street, . . . . . New York.



PRICE \$10.  
PREPAID.



SPECIALY ADAPTED  
for all purposes in

## Rubber Manufacturing

State your REQUIREMENTS and  
we will be pleased to give you the  
results of our 15 years experience.

HOHMANN & MAURER MFG. CO.,  
ROCHESTER, N. Y., U. S. A.

Send for Illustrated Catalogue R.

London: 57 D, Hatton Garden, E. C. New York: 85 Chambers St.  
Chicago: 119 Lake St.

## WE would like you to see the WESTERN UNION RUBBER CODE

IT COSTS \$10.00

You can get almost any other code  
for less, but we are presuming you  
want the best.

SAMPLE PAGES FREE

INTERNATIONAL CABLE DIRECTORY COMPANY

Chesebrough Building, 17 State St., NEW YORK  
Salisbury House, London Wall, LONDON, E. C.

Mention The India Rubber World when you write.

## RUBBER AND COFFEE LANDS.

THE Mexican Land and Colonization Company owns several hundred thousand acres of land suitable for Rubber and Coffee in the State of Chiapas, Mexico. The majority of the coffee plantations in Soconusco now producing largely were originally purchased from this Company also La Zacualpa and other rubber plantations.

For further particulars apply to

O. H. HARRISON,

Spreckels Annex, 713 Market Street, SAN FRANCISCO.

Mention the India Rubber World when you write.

## Mexican Lands.

TO individual purchasers or plantation companies I will sell at rock bottom prices Rubber and Tropical Plantation lands in the states of Vera Cruz, Oaxaca, Tabasco, and Chiapas, in tracts to suit, from 1,000 to 1,000,000 acres. All statements as to title and value guaranteed.

I have 1,000,000 acres of heavily timbered rubber lands that I can subdivide if desired, in the heart of the Rubber, Mahogany, Cedar, and Tropical Woods country on the largest river in Mexico, with a magnificent saw milling and manufacturing site. It is proposed to cut off the timber,—taking care of the Rubber trees now growing and planting new ones, that will in a few years make a magnificent rubber forest at practically no cost. Address—

J. J. FITZGERRELL, 1a. San Francisco, No. 7, Mexico City, Mexico, or  
M. M. FITZGERRELL, 810 Olive Street, St. Louis, Missouri.

Mention The India Rubber World when you write.



# J. H. LANE & CO.,

BOSTON. CHICAGO. 110 WORTH ST., NEW YORK. PHILADELPHIA. LONDON.

HOSE  
BELT  
SAIL  
WIDE

**DUCKS**

PAPER FELTS  
OUNCE GOODS  
ARMY DUCK  
OSNABURGS

**AUTOMOBILE  
AND BICYCLE**

**TIRE FABRICS**

**SHEETINGS AND DRILLS. SEA ISLAND, EGYPTIAN, AND PEELER YARNS,  
AND FABRICS IN REGULAR AND SPECIAL CONSTRUCTION.**

*Mention The India Rubber World when you write.*

READY AUGUST 15

## Rubber Planting

on the

Isthmus of Tehuantepec

A Record of an Examination  
of Typical Plantations

By HENRY C. PEARSON

Editor of "The India Rubber World"

A REPRINT of Mr. Pearson's letters in the May, June, July, and August issues of the "India Rubber World." Describing in detail the journey to the Isthmus, climate, natives, plantations, methods of planting, soils,—successes and failures, etc., etc. Illustrated by forty-six fine half tones from photographs not before published.

Price 50 cents, postpaid.

INDIA RUBBER PUBLISHING CO.

No. 150 Nassau Street, New York

*Mention The India Rubber World when you write.*

## Vulcanizers of all sizes,

CALENDERS, GRINDERS, MIXERS AND WASHERS,

Hydraulic and Screw Presses,

Hydraulic Pumps and Accumulators.

## The STURTEVANT SYSTEM of RUBBER DRYING

is rendered positive by a forced circulation of warm air. The time is reduced one-half and the product improved. The same system, giving thorough ventilation, is used

for heating factory buildings, offices, etc.



**B. F. STURTEVANT  
COMPANY,  
BOSTON, MASS.  
NEW YORK. CHICAGO.  
PHILADELPHIA LONDON.**

284

*Mention The India Rubber World when you write.*

## THOS. F. STEVENSON,

120 LIBERTY ST., NEW YORK.

Correspondence solicited. Several second-hand Calenders and Grinders for sale.

*Mention The India Rubber World when you write.*

## BONNER MANUFACTURING CO.,

MANUFACTURERS  
OF ALL GRADES

## RUBBER SUBSTITUTES.

GOODS MADE TO ORDER A SPECIALTY.

OFFICE: No. 89 State Street,

BOSTON, MASS.

*Mention The India Rubber World when you write.*

# BUYERS' DIRECTORY OF THE RUBBER TRADE.

CLASSIFIED LIST OF MANUFACTURERS AND DEALERS IN INDIA-RUBBER GOODS AND RUBBER MANUFACTURERS' SUPPLIES.

## INDEX TO ADVERTISERS.

NAME.	PAGE.
Adamson, A.	XXXXIV
Akron Commercial Co.	XXXXIV
Akron Rubber Works.	XXXXIV
Alden Rubber Co.	XXXXIV
Alden & Co., Geo. A.	XXXXIV
American Hard Rubber Co.	XXXXIV
American Tool & Machine Co.	XXXXIV
American Vacuum Drying Machine Co.	XXXXIV
Atlas Chemical Co.	XXXXIV
Austen, Peter T.	XXXXIV
Bailey & Co., C. J.	XXXXIV
Bauman Rubber Co., Jos.	XXXXIV
Barberton Rubber Wks.	XXXXIV
Barrett Mfg. Co.	XXXXIV
Battelle & Renwick	XXXXIV
Bers & Co.	XXXXIV
Birkenstein & Sons, S.	XXXXIV
Birmingham Iron Foundry	XXXXIV
Bloomington Soft Rubber Wks.	XXXXIV
Bonner Mfg. Co.	XXXXIV
Boomer & Boshert Press Co.	XXXXIV
Boston Belting Co.	XXXXIV
Boston Rubber Shoe Co.	XXXXIV
Boston Woven Hose & Rubber Co.	XXXXIV
Brooks Bros. & Co.	XXXXIV
Cabot, Samuel.	XXXXIV
Cantor, Joseph.	XXXXIV
Chicago Rubber Wks.	XXXXIV
Chicago Tire & Rubber Co.	XXXXIV
Clark, Edred W.	XXXXIV
Cleveland Rubber Wks.	XXXXIV
Combination Rubber & Belting Co.	XXXXIV
Conant Rubber Co.	XXXXIV
Consolidated Uvero Plantations Co.	XXXXIV

Continental Caoutchouc & Guttapercha Co.	XXXXIV
Cravenette Co., Ltd.	XXXXIV
Cummings & Sons, Wm. H.	XXXXIV
Coleman Co., W. C.	XXXXIV
Crescent Belting & Packing Co.	XXXXIV
Davidson Rubber Co.	XXXXIV
Dayton Rubber Co.	XXXXIV
Egestorff's (Georg) Salzwerke.	XXXXIV
Empire Rubber Mfg. Co.	XXXXIV
Eureka Fire Hose Co.	XXXXIV
Eureka Rubber Mfg. Co.	XXXXIV
Excelstor Machine Wks.	XXXXIV
Fairall Foundry & Machine Co.	XXXXIV
Faultless Rubber Co.	XXXXIV
Fitzgerald, J. J.	XXXXIV
Foss Flour Co.	XXXXIV
General Information	XXXXIV
Goodrich Co., B. F.	XXXXIV
Gotham Rubber Co.	XXXXIV
Granby Rubber Co.	XXXXIV
Gutta Percha & Rubber Mfg. Co.	XXXXIV
Gutta Percha & Rubber Mfg. Co., Toronto.	XXXXIV
Harrison, O. H.	XXXXIV
Hellios-Upton Co.	XXXXIV
Hodgman Rubber Co.	XXXXIV
Hoffeller & Co., Thendole.	XXXXIV
Hogson & Pettis Mfg. Co.	XXXXIV
Holman & Mauser Mfg. Co.	XXXXIV
Hollen, Leonard & Co.	XXXXIV
Home Rubber Co.	XXXXIV
India Rubber Co.	XXXXIV
India-Rubber Pub. Co.	XXXXIV
International Cable Directory Co.	XXXXIV
Jenkins Bros.	XXXXIV
"Journal d'Agriculture Tropicale"	XXXXIV

Kimbball, Herbert S.	XXXXIV
Kokomo Rubber Co.	XXXXIV
La Crosse Rubber Mills Co.	XXXXIV
Lake Shore Rubber Co.	XXXXIV
Lane & Co., J. H.	XXXXIV
La Zacualpa Rubber Plantation Co.	XXXXIV
Liverpool Rubber Co., Ltd.	XXXXIV
McGarry, Philip	XXXXIV
Manhattan Rubber Mfg. Co.	XXXXIV
Marine Iron Wks.	XXXXIV
Masson Regulator Co.	XXXXIV
Massachusetts Chemical Co.	XXXXIV
Mattison Rubber Co.	XXXXIV
Mechanical Rubber Co.	XXXXIV
Meyer, Otto	XXXXIV
Milford Rubber Co.	XXXXIV
Morris & Co.	XXXXIV
Morse & Co., A. T.	XXXXIV
New Century Rubber Co.	XXXXIV
New Jersey Car Spring & Rubber Co.	XXXXIV
New Jersey Rubber Co.	XXXXIV
New Jersey Zinc Co.	XXXXIV
New York Belting & Packing Co.	XXXXIV
New York Rubber Co.	XXXXIV
Peerless Rubber Mfg. Co.	XXXXIV
Peppanoc Rubber Co.	XXXXIV
Philadelphia Rubber Wks.	XXXXIV
Plecher Lead Co.	XXXXIV
Plymouth Rubber Co.	XXXXIV
Pure Gum Specialty Co.	XXXXIV
Raymond Rubber Co.	XXXXIV
Republic Rubber Co.	XXXXIV
Revere Rubber Co.	XXXXIV
Royle & Sons, John.	XXXXIV
Rubber Trading Co.	XXXXIV
Russan, Ashmore.	XXXXIV

Sadomon Bros. & Co.	XXXXIV
Schrader & Ehlert.	XXXXIV
Sheep Mfg. Co., Henry H.	XXXXIV
Singer, Manilla Tinning Co.	XXXXIV
Somerset, Less Sons, Wm.	XXXXIV
Spaulding Geo. W.	XXXXIV
Stamford Rubber Supply Co.	XXXXIV
Stevenson, Thos. E.	XXXXIV
Stevens Rubber Co., Jos.	XXXXIV
Strass, Ernst	XXXXIV
Sturtevant Co., B. F.	XXXXIV
Talbot Mfg. Co., H. F.	XXXXIV
Terry, H. L.	XXXXIV
Textile-Finishing Machinery Co.	XXXXIV
Thompson, William R.	XXXXIV
Toch Bros.	XXXXIV
Traub & Sons, H.	XXXXIV
Trenton Rubber Mfg. Co.	XXXXIV
"Tropical Agriculturist"	XXXXIV
Tyler Rubber Co.	XXXXIV
Type & King.	XXXXIV
United States Rubber Co.	XXXXIV
U. S. Rubber Reclaiming Wks.	XXXXIV
U. S. Waste Rubber Co.	XXXXIV
Voorhees Rubber Mfg. Co.	XXXXIV
Wanted and For Sale	XXXXIV
Weed & Co., E. B.	XXXXIV
Well Mfg. Co.	XXXXIV
Wellman Sole Cutting Machine Co.	XXXXIV
Western Rubber Co.	XXXXIV
Williams Foundry & Machine Co.	XXXXIV
Whaley & Co., W. B. Smith.	XXXXIV
White, T. & S. C. B.	XXXXIV
Whitman & Barnes Mfg. Co.	XXXXIV
Woodman, Ph. D., Durand.	XXXXIV
Yatman Rubber Co.	XXXXIV
Yerdon, William.	XXXXIV

## MECHANICAL RUBBER GOODS

Belting.  
Diaphragms.  
Gaskets.  
Gauge Glass Washers.  
Hose (Fire, Garden, Steam).  
Mats and Matting.  
Mould Work.  
Packing.  
Valves.  
Washers.

### Mechanical Rubber Goods—General.

Alden Rubber Co., Barberton, O.  
Boston Belting Co., Boston-New York  
Boston Woven Hose & Rubber Co.  
Chicago Rubber Wks., Chicago  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Continental Caoutchouc & Guttapercha Co., Hanover, Germany.  
Crescent Belting & Packing Co., Trenton, N. J.  
Empire Rubber Mfg. Co., Trenton, N. J.  
Eureka Fire Hose Co., New York.  
Eureka Rubber Mfg. Co., Trenton, N. J.  
B. F. Goodrich Co., Akron, O.  
Gotham Rubber Co., San Francisco and Seattle.  
Gutta Percha & Rubber Mfg. Co., N. Y.  
Gutta Percha & Rubber Mfg. Co., Toronto.  
Home Rubber Co., Trenton, N. J.  
Lake Shore Rubber Co., Erie, Pa.  
Liverpool Rubber Co., Liverpool, Eng.  
Manhattan Rubber Mfg. Co., New York.  
Mechanical Rubber Co., New York.  
National India Rubber Co., Providence.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
New York Belting & Packing Co., N. Y.  
New York Rubber Co., New York.  
Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, Ohio.  
Revere Rubber Co., Boston.

## MECHANICAL GOODS.

Jos. Stokes Rubber Co., Trenton, N. J.  
Trenton Rubber Mfg. Co., Trenton, N. J.  
Voorhees Rubber Mfg. Co., Jersey City  
Western Rubber Co., Goshen, Ind.  
Whitman & Barnes Mfg. Co., Akron, O.  
**Air Brake Hose.**  
Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Crescent Belting & Packing Co., Trenton, N. J.  
Eureka Rubber Mfg. Co., Trenton, N. J.  
N. J. Car Spring & Rubber Co., Jersey City.  
Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, Ohio.  
Revere Rubber Co., Boston-New York.  
Voorhees Rubber Mfg. Co., Jersey City.  
Whitman & Barnes Mfg. Co., Akron, O.  
**Belting (Cotton).**  
Boston Woven Hose & Rubber Co.  
Eureka Fire Hose Co., New York.  
Peerless Rubber Mfg. Co., New York.  
Revere Rubber Co., Boston-New York.  
**Belting (Thresher).**  
Boston Woven Hose & Rubber Co.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Crescent Belting & Packing Co., Trenton, N. J.  
Peerless Rubber Mfg. Co., New York.  
**Billiard Cushions.**  
Alden Rubber Co., Barberton, Ohio.  
Boston Belting Co., Boston.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
B. F. Goodrich Co., Akron, O.  
Manhattan Rubber Mfg. Co., New York.  
New York Belting & Packing Co., Ltd.  
New York Rubber Co., New York.  
Revere Rubber Co., Boston-New York.  
Whitman & Barnes Mfg. Co., Akron, O.  
**Blankets—Printers'.**  
Boston Belting Co., Boston.  
Hodgman Rubber Co., New York.  
Liverpool Rubber Co., Liverpool, Eng.

## MECHANICAL GOODS.

N. J. Car Spring & Rubber Co., Jersey City, N. J.  
Revere Rubber Co., Boston-New York  
Voorhees Rubber Mfg. Co., Jersey City  
**Boss Washers.**  
Combination Rubber & Belting Co., Bloomfield, N. J.  
**Brushes.**  
American Hard Rubber Co., New York  
Boston Woven Hose & Rubber Co.  
C. J. Bailey & Co., Boston.  
**Buffers.**  
Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Crescent Belting & Packing Co., Trenton, N. J.  
Liverpool Rubber Co., Ltd., Liverpool  
**"Bull Dog" Packing.**  
Boston Woven Hose & Rubber Co.  
**Carriage Mats.**  
Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Crescent Belting & Packing Co., Trenton, N. J.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
Peerless Rubber Mfg. Co., New York.  
Voorhees Rubber Mfg. Co., Jersey City.  
**Coin Mats.**  
Alden Rubber Co., Barberton, O.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
New York Belting & Packing Co., N. Y.  
**Cord (Pure Rubber).**  
Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Crescent Belting & Packing Co., Trenton, N. J.

## MECHANICAL GOODS.

Davol Rubber Co., Providence, R. I.  
Empire Rubber Mfg. Co., Trenton, N. J.  
Home Rubber Co., Trenton, N. J.  
Manhattan Rubber Mfg. Co., New York.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
New York Belting & Packing Co., N. Y.  
Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston-New York.  
Voorhees Rubber Mfg. Co., Jersey City.  
**Deckle Straps.**  
Boston Belting Co., Boston.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Liverpool Rubber Co., Liverpool, Eng.  
Mechanical Rubber Co., Chicago.  
New York Belting & Packing Co., N. Y.  
Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston-New York.  
**Door Springs.**  
Hodgman Rubber Co., New York.  
**Dredging Sleeves.**  
Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
N. J. Car Spring & Rubber Co., Jersey City.  
Republic Rubber Co., Youngstown, O.  
**Fleshing Bands.**  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Republic Rubber Co., Youngstown, O.  
**Force Cups.**  
Hodgman Rubber Co., New York.  
**"Forsyth" Combination Packing.**  
Boston Belting Co., Boston-New York.  
**Fruit Jar Rings.**  
Alden Rubber Co., Barberton, O.  
Boston Woven Hose & Rubber Co.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co., Bloomfield, N. J.



## RUBBER BUYERS' DIRECTORY—CONTINUED.

## MECHANICAL GOODS.

Crescent Belting & Packing Co., Trenton, N. J.  
Empire Rubber Mfg. Co., Trenton, N. J.  
Eureka Rubber Mfg. Co., Trenton, N. J.  
Manhattan Rubber Mfg. Co., New York  
Republic Rubber Co., Youngstown, Ohio.  
New York Belting & Packing Co., N. Y.  
Whitman & Barnes Mfg. Co., Akron, O.

## Fuller Balls.

Combination Rubber & Belting Co., Bloomfield, N. J.  
N. J. Car Spring & Rubber Co., Jersey City.

Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, O.  
Whitman & Barnes Mfg. Co., Akron, O.

## Gas-Bags (Rubber).

Cleveland Rubber Co., Cleveland, O.  
Davol Rubber Co., Providence, R. I.  
Liverpool Rubber Co., Liverpool, Eng.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.

Peerless Rubber Mfg. Co., New York.  
Tyer Rubber Co., Andover, Mass.  
Voorhees Rubber Mfg. Co., Jersey City.

## Grain Drill Tubes.

Boston Belting Co., Boston-New York.  
Republic Rubber Co., Youngstown, O.  
Whitman & Barnes Mfg. Co., Akron, O.

## Hat Bags.

Alden Rubber Co., Barberton, O.  
Boston Belting Co., Boston.  
Boston Woven Hose & Rubber Co., Bloomfield, N. J.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Home Rubber Co., Trenton, N. J.  
Manhattan Rubber Mfg. Co., New York  
Matteson Rubber Co., Chicago.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.

New York Belting & Packing Co., N. Y.  
New York Rubber Co., New York.  
Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston.

## Horse Shoe Pads.

Boston Woven Hose & Rubber Co., Bloomfield, N. J.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Crescent Belting & Packing Co., Trenton, N. J.  
Peerless Rubber Mfg. Co., New York.  
Plymouth Rubber Co., Stoughton, Mass.  
Revere Rubber Co., Boston-New York.  
Voorhees Rubber Mfg. Co., Jersey City  
Western Rubber Co., Goshen, Ind.  
Whitman & Barnes Mfg. Co., Akron, O.

## Hose Armor.

Crescent Belting & Packing Co., Trenton, N. J.

## Hose—Armored.

Boston Belting Co., Boston-New York.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Crescent Belting & Packing Co., Trenton, N. J.  
N. J. Car Spring & Rubber Co., Jersey City.  
Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston-New York.  
Voorhees Rubber Mfg. Co., Jersey City

## Hose Couplings.

Boston Woven Hose & Rubber Co.

## Hose Linings.

Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co., Bloomfield, N. J.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Empire Rubber Mfg. Co., Trenton, N. J.  
Eureka Rubber Mfg. Co., Trenton, N. J.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.  
Peerless Rubber Mfg. Co., New York.

## Hose Menders.

Boston Woven Hose & Rubber Co.

## Hose—Protected.

Boston Belting Co., Boston-New York.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Revere Rubber Co., Boston-New York.  
Voorhees Rubber Mfg. Co., Jersey City.

## Hose Rubber Lined.

Alden Rubber Co., Barberton, O.  
Boston Belting Co., Boston-New York  
Boston Woven Hose & Rubber Co., Cleveland Rubber Co., Cleveland, O.

## MECHANICAL GOODS.

Combination Rubber & Belting Co., Bloomfield, N. J.  
Crescent Belting & Packing Co., Trenton, N. J.

Empire Rubber Mfg. Co., Trenton, N. J.  
Eureka Fire Hose Co., New York.  
Eureka Rubber Mfg. Co., Trenton, N. J.  
Gutta Percha & Rubber Mfg. Co., N. Y.  
Gutta Percha and Rubber Mfg. Co. of Toronto.

Home Rubber Co., Trenton, N. J.  
Manhattan Rubber Mfg. Co., New York.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.

New York Belting & Packing Co., N. Y.  
Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston.

Jos. Stokes Rubber Co., Trenton, N. J.  
Voorhees Rubber Mfg. Co., Jersey City.  
Whitman & Barnes Mfg. Co., Akron, O.

## Hose—Submarine.

Boston Belting Co., Boston-New York.  
Crescent Belting & Packing Co., Trenton, N. J.  
Republic Rubber Co., Youngstown, O.  
Boston Woven Hose & Rubber Co.

## Hose—Wire Wound.

Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Combination Rubber & Belting Co., Bloomfield, N. J.

Crescent Belting & Packing Co., Trenton, N. J.  
N. J. Car Spring & Rubber Co., Jersey City  
Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston.

## Lawn Sprinklers.

Boston Woven Hose & Rubber Co.

## Mallets (Rubber).

Boston Belting Co., Boston-New York.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Peerless Rubber Mfg. Co., New York.  
Revere Rubber Co., Boston-New York.

## Mould Work.

[See Mechanical Rubber Goods.]  
Chicago Tire & Rubber Co., Chicago.  
Crescent Belting & Packing Co., Trenton, N. J.  
Davidson Rubber Co., Boston.  
Davol Rubber Co., Providence, R. I.  
Faultless Rubber Co., Akron, O.  
Hodgman Rubber Co., New York.  
La Crosse (Wis.) Rubber Mills Co.  
Matteson Rubber Co.  
National India Rubber Co., Bristol, R. I.  
Plymouth Rubber Co., Stoughton, Mass.  
Tyer Rubber Co., Andover, Mass.  
Yatman Rubber Co., Harrison, N. J.

## "Nubian" Packing.

Voorhees Rubber Mfg. Co., Jersey City

## Oil Well Supplies.

Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Crescent Belting & Packing Co., Trenton, N. J.

Lake Shore Rubber Co., Erie, Pa.  
N. J. Car Spring & Rubber Co., Jersey City.

Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston-Pittsburgh.  
Voorhees Rubber Mfg. Co., Jersey City  
Whitman & Barnes Mfg. Co., Akron, O.

## Paper Machine Rollers.

Boston Belting Co., Boston-New York.  
Combination Rubber & Belting Co., Bloomfield, N. J.

Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston-New York.  
Peerless Rubber Mfg. Co., New York.  
Voorhees Rubber Mfg. Co., Jersey City

## Plumbers' Supplies.

Republic Rubber Co., Youngstown, O.  
Western Rubber Co., Goshen, Ind.

## Pump Buckets.

Boston Woven Hose & Rubber Co.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, O.

## "Rainbow" Packing.

Peerless Rubber Mfg. Co., New York.

## Reels—Hose.

Boston Belting Co., Boston-New York  
Boston Woven Hose & Rubber Co.

## MECHANICAL GOODS.

Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, O.

## Rings.

Boston Belting Co., Boston-New York.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Peerless Rubber Mfg. Co., New York.  
Plymouth Rubber Co., Stoughton, Mass.  
Republic Rubber Co., Youngstown, O.

## Rollers—Rubber Covered.

Alden Rubber Co., Barberton, O.  
Boston Belting Co., Boston.  
Boston Woven Hose & Rubber Co.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co., Bloomfield, N. J.

Crescent Belting & Packing Co., Trenton, N. J.  
Empire Rubber Mfg. Co., Trenton, N. J.  
Eureka Rubber Mfg. Co., Trenton, N. J.  
B. F. Goodrich Co., Akron, O.

Home Rubber Co., Trenton, N. J.  
Manhattan Rubber Mfg. Co., New York.  
Mechanical Rubber Co., Chicago.  
N. J. Car Spring & Rubber Co., Jersey City, N. J.

New York Belting & Packing Co., N. Y.  
Peerless Rubber Mfg. Co., New York.  
Plymouth Rubber Co., Stoughton, Mass.  
Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston New York.

## Sewing Machine Rubbers.

Combination Rubber & Belting Co., Bloomfield, N. J.

## Springs—Rubber.

Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Crescent Belting & Packing Co., Trenton, N. J.

Liverpool Rubber Co., Liverpool, Eng.  
N. J. Car Spring & Rubber Co., Jersey City.

Peerless Rubber Mfg. Co., New York.  
Plymouth Rubber Co., Stoughton, Mass.  
Republic Rubber Co., Youngstown, Ohio  
Revere Rubber Co., Boston-New York.  
Voorhees Rubber Mfg. Co., Jersey City.

## Stair Treads.

Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co., Bloomfield, N. J.

Crescent Belting & Packing Co., Trenton, N. J.  
Empire Rubber Mfg. Co., Trenton, N. J.  
Home Rubber Co., Trenton, N. J.

Liverpool Rubber Co., Liverpool, Eng.  
Manhattan Rubber Mfg. Co., New York  
N. J. Car Spring & Rubber Co., Jersey City, N. J.

New York Belting & Packing Co., N. Y.  
New York Rubber Co., New York.  
Peerless Rubber Mfg. Co., New York.

Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston-New York.  
Voorhees Rubber Mfg. Co., Jersey City.

## Tiling.

Combination Rubber & Belting Co., Bloomfield, N. J.  
Gutta Percha & Rubber Mfg. Co., N. Y.  
N. J. Car Spring & Rubber Co., Jersey City.

New York Belting & Packing Co., N. Y.  
Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, Ohio  
Voorhees Rubber Mfg. Co., Jersey City.

## Tire Inner Tubes.

Western Rubber Co., Goshen, Ind.

## Tires.

BICYCLE AND CARRIAGE.  
Alden Rubber Co., Barberton, O.  
Boston Woven Hose & Rubber Co.  
Continental Caoutchouc & Guttapercha Co., Hanover.

Empire Rubber Mfg. Co., Trenton, N. J.  
B. F. Goodrich Co., Akron, O.  
Gutta Percha & Rubber Mfg. Co., Toronto.

Kokomo Rubber Co., Kokomo, Ind.  
Lake Shore Rubber Co., Erie, Pa.  
Liverpool Rubber Co., Liverpool, Eng.

Plymouth Rubber Co., Stoughton, Mass.  
Republic Rubber Co., Youngstown, O.

## CARRIAGE

Boston Belting Co., Boston-New York.  
Combination Rubber & Belting Co., N. J. Car Spring & Rubber Co., Jersey City.

Pennsylvania Rubber Co., Jeannette, Pa.

## MECHANICAL GOODS.

Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston-New York.  
Western Rubber Co., Goshen, Ind.

## Truck Bands.

Alden Rubber Co., Barberton, O.  
Boston Belting Co., Boston.  
Boston Woven Hose & Rubber Co.  
Canadian Rubber Co. of Montreal.  
Cleveland Rubber Co., Cleveland, O.

Combination Rubber & Belting Co., Bloomfield, N. J.  
Empire Rubber Mfg. Co., Trenton, N. J.

Home Rubber Co., Trenton, N. J.  
Manhattan Rubber Mfg. Co., New York.  
Mechanical Rubber Co., Chicago.

N. J. Car Spring & Rubber Co., Jersey City, N. J.  
New York Belting & Packing Co., N. Y.

Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, O.  
Voorhees Rubber Mfg. Co., Jersey City.  
Whitman & Barnes Mfg. Co., Akron, O.

## Tubing.

[See Mechanical Rubber Goods]  
American Hard Rubber Co., New York.  
Crescent Belting & Packing Co., Trenton, N. J.

Davidson Rubber Co., Boston.  
Davol Rubber Co., Providence, R. I.  
Peerless Rubber Mfg. Co., New York.

Plymouth Rubber Co., Stoughton, Mass.  
Tyer Rubber Co., Andover, Mass.

## Tubing (Beer).

Boston Belting Co., Boston-New York.  
Boston Woven Hose & Rubber Co.  
Combination Rubber & Belting Co., Bloomfield, N. J.

Crescent Belting & Packing Co., Trenton, N. J.  
Peerless Rubber Mfg. Co., New York.

Plymouth Rubber Co., Stoughton, Mass.  
Republic Rubber Co., Youngstown, O.  
Voorhees Rubber Mfg. Co., Jersey City.

## "Usudurian" Packing.

Revere Rubber Co., Boston-New York.

## Valve Balls.

Boston Belting Co., Boston.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Manhattan Rubber Mfg. Co., New York  
Mechanical Rubber Co., Chicago.

New York Belting & Packing Co., N. Y.  
New York Rubber Co., New York.  
Peerless Rubber Mfg. Co., New York.

Republic Rubber Co., Youngstown, O.  
Whitman & Barnes Mfg. Co., Akron, O.

## Valve Discs.

American Hard Rubber Co., New York.  
Boston Belting Co., Boston-New York.  
Combination Rubber & Belting Co., Bloomfield, N. J.

Peerless Rubber Mfg. Co., New York.  
Republic Rubber Co., Youngstown, O.  
Revere Rubber Co., Boston-New York.

## Valves.

[See Mechanical Rubber Goods]  
Jenkins Bros., New York-Chicago.  
Plymouth Rubber Co., Stoughton, Mass.

## Wringer Rolls.

Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co., Bloomfield, N. J.  
Republic Rubber Co., Youngstown, O.

## DRUGGISTS' AND STATIONERS' SUNDRIES

## Atomizers.

## Bandages.

## Bulbs.

## Water Bottles.

## Druggists' Sundries—General.

American Hard Rubber Co., New York  
C. J. Bailey & Co., Boston.

Canadian Rubber Co. of Montreal.  
Cleveland Rubber Co., Cleveland, O.  
Davidson Rubber Co., Boston.

Davol Rubber Co., Providence, R. I.  
Faultless Rubber Co., Akron, O.  
B. F. Goodrich Co., Akron, O.

Hodgman Rubber Co., New York.  
Tyer Rubber Co., Andover, Mass.

## Balls, Dolls and Toys.

Continental Caoutchouc & Guttapercha Co.  
New York Rubber Co., New York.  
Whitman & Barnes Mfg. Co., Akron, O.



## RUBBER BUYERS' DIRECTORY CONTINUED.

## DRUGGISTS' SUNDRIES

## Combs.

American Hard Rubber Co., New York.  
Dr. H. Traun & Sons, Harburg, Ger-  
many.  
Schrader & Ehlers, New York.

## Elastic Bands.

Davidson Rubber Co., Boston.  
Daval Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York-Boston.  
Tyer Rubber Co., Andover, Mass.  
Whitman & Barnes Mfg. Co., Akron, O.

## Erasive Rubbers.

Davidson Rubber Co., Boston.  
B. F. Goodrich Co., Akron, O.  
Mattson Rubber Co., New York.  
Yatman Rubber Co., Harrison, N. J.

## Finger Cots.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Faultless Rubber Mfg. Co., Akron, O.  
India Rubber Co., Akron, O.  
Pure Gum Specialty Co., Barberton, O.

## Gloves.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Daval Rubber Co., Providence, R. I.  
Faultless Rubber Co., Akron, O.  
India Rubber Co., Akron, O.  
Pure Gum Specialty Co., Barberton, O.

## Hard Rubber Goods.

American Hard Rubber Co., New York.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Daval Rubber Co., Providence, R. I.  
Schrader & Ehlers, New York.  
Stokes Rubber Co., Joseph, Trenton, N. J.  
Dr. H. Traun & Sons, Harburg, Ger-  
many.  
Tyer Rubber Co., Andover, Mass.

## Hospital Sheetings.

Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Conant Rubber Co., Boston.  
Davidson Rubber Co., Boston.  
Daval Rubber Co., Providence, R. I.  
Hodgman Rubber Co., New York.  
Plymouth Rubber Co., Stoughton, Mass.  
Tyer Rubber Co., Andover, Mass.

## Hot Water Bottles.

American Hard Rubber Co., New York.  
Cleveland Rubber Co., Cleveland, O.  
Davidson Rubber Co., Boston.  
Daval Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York-Boston.  
Tyer Rubber Co., Andover, Mass.

## Ice Bags.

Hodgman Rubber Co., New York.  
Pure Gum Specialty Co., Barberton, O.

## Ice Caps.

Pure Gum Specialty Co., Barberton, O.  
Tyer Rubber Co., Andover, Mass.

## Life Preservers.

Hodgman Rubber Co., New York.

## Mittens.

Daval Rubber Co., Providence, R. I.  
Faultless Rubber Co., Akron, O.

## Nipple Caps.

Peerless Rubber Mfg. Co., New York.

## Nipples.

Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Davidson Rubber Co., Boston.  
Daval Rubber Co., Providence, R. I.  
Faultless Rubber Co., Akron, O.  
Pure Gum Specialty Co., Barberton, O.  
Tyer Rubber Co., Andover, Mass.

## Notions.

American Hard Rubber Co., New York.  
Davidson Rubber Co., Boston.  
Tyer Rubber Co., Andover, Mass.

## Rulers.

American Hard Rubber Co., New York.

## Sponges (Rubber).

Camp Rubber Co., Ashland, Ohio.

Chicago Tire & Rubber Co., Chicago.

## Stationers' Sundries.

American Hard Rubber Co., New York.  
Cleveland Rubber Co., Cleveland, O.  
Davidson Rubber Co., Boston.  
Daval Rubber Co., Providence, R. I.  
Goodyear Tire & Rubber Co., Akron, O.  
Hodgman Rubber Co., New York-Boston.  
Tyer Rubber Co., Andover, Mass.

## Stopples (Rubber).

Alden Rubber Co., Barberton, O.

## DRUGGISTS' SUNDRIES

Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Daval Rubber Co., Providence, R. I.  
Hodgman Rubber Co., New York.  
Manhattan Rubber Mfg. Co., New York.  
New York Belting & Packing Co., N. Y.  
Tyer Rubber Co., Andover, Mass.  
Whitman & Barnes Mfg. Co., Akron, O.

## Surgical Appliances.

Faultless Rubber Co., Akron, O.

## Syringes.

American Hard Rubber Co., New York.  
Cleveland Rubber Co., Cleveland, O.  
Daval Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York.  
Tyer Rubber Co., Andover, Mass.

## Throat Bags.

Cleveland Rubber Co., Cleveland, O.  
Daval Rubber Co., Providence, R. I.  
Tyer Rubber Co., Andover, Mass.

## Tobacco Pouches.

Pure Gum Specialty Co., Barberton, O.  
Tyer Rubber Co., Andover, Mass.

RUBBER  
FOOTWEAR

## Boots and Shoes.

American Rubber Co., Boston.  
Joseph Banigan Rubber Co., Providence,  
R. I.  
Boston Rubber Shoe Co., Boston.  
L. Candee & Co., New Haven, Ct.  
Granby Rubber Co., Granby, Quebec.  
Gutta Percha & Rubber Mfg. Co. of  
Toronto.  
Hood Rubber Co., Boston.  
Jersey Rubber Shoe Co., New York.  
Liverpool Rubber Co., Liverpool, Eng.  
Lycorning Rubber Co., Williamsport, Pa.  
Meyer Rubber Co., New York.  
National India Rubber Co., Boston-  
Providence.  
United States Rubber Co., New York.  
Wales-Goodyear Rubber Co., Boston.  
Woonsocket Rubber Co., Providence.

## Heels and Soles.

Boston Woven Hose & Rubber Co.,  
Chicago Tire & Rubber Co., Chicago.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Continental Caoutchouc & Guttapercha  
Co., Hanover.  
Plymouth Rubber Co., Stoughton, Mass.  
Western Rubber Co., Goshen, Ind.

## Tennis Shoes.

American Rubber Co., Boston.  
Joseph Banigan Rubber Co., Provi-  
dence, R. I.  
Boston Rubber Shoe Co., Boston.  
Granby Rubber Co., Granby, Quebec.  
Liverpool Rubber Co., Liverpool, Eng.  
National India Rubber Co., Providence.  
United States Rubber Co., New York.

## Tennis Soles.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Jos. Stokes Rubber Co., Trenton, N. J.

## Wading Pants.

Hodgman Rubber Co., New York.

MACKINTOSHED  
AND SURFACE  
GOODS

## Air Goods (Rubber).

Cleveland Rubber Co., Cleveland, O.  
Daval Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York.  
New York Rubber Co., New York.  
National India Rubber Co., Providence.  
Tyer Rubber Co., Andover, Mass.

## Aprons.

Hodgman Rubber Co., New York.

## Barbers' Bibs.

Daval Rubber Co., Providence, R. I.  
Tyer Rubber Co., Andover, Mass.

## Bathing Caps.

Conant Rubber Co., Boston.  
Daval Rubber Co., Providence, R. I.  
D. C. Hall & Co., New York.

## Bellows Cloths.

Boston Rubber Co., Boston.

## MACKINTOSHED GOODS.

Cleveland Rubber Co., Cleveland, O.  
Hodgman Rubber Co., New York.  
La Crosse (Wis.) Rubber Mills Co.

## Calendering.

La Crosse (Wis.) Rubber Mills Co.  
Milford Rubber Co., Boston.  
Plymouth Rubber Co., Stoughton, Mass.

## Canoe Beds.

Hodgman Rubber Co., New York.

## Carriage Ducks and Drills.

Cleveland Rubber Co., Cleveland, O.  
Empire Rubber Mfg. Co., Trenton, N. J.  
Eureka Rubber Mfg. Co., Trenton, N. J.  
Gutta Percha & Rubber Mfg. Co., To-  
ronto.

## Clothing.

Cleveland Rubber Co., Cleveland, O.  
Conant Rubber Co., Boston.  
Granby Rubber Co., Granby, Quebec.  
Gutta Percha & Rubber Mfg. Co. of To-  
ronto.

Hodgman Rubber Co., New York.  
Holden, Leonard & Co., Boston.  
La Crosse (Wis.) Rubber Mills Co.

## Cravenette.

Cravenette Co., Ltd.

## Diving Dresses.

Hodgman Rubber Co., New York.

## Dress Shields.

Conant Rubber Co., Boston.

D. C. Hall & Co., New York.

Hodgman Rubber Co., New York.

Mattson Rubber Co., New York.

## Horse Covers.

Hodgman Rubber Co., New York.

## Leggings.

Cleveland Rubber Co., Cleveland, O.

Hodgman Rubber Co., New York.

## Mackintoshes.

[See Clothing.]

## Proofing.

La Crosse (Wis.) Rubber Mills Co.  
Milford Rubber Co., Boston.  
Plymouth Rubber Co., Stoughton, Mass.

## Rain Coats.

Cravenette Co., Ltd.

## Sheets and Sheeting.

D. C. Hall & Co., New York.

DENTAL AND  
STAMP RUBBER

## Dental Gum.

American Hard Rubber Co., New York.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Tyer Rubber Co., Andover, Mass.

## Rubber Dam.

Cleveland Rubber Co., Cleveland, O.  
Daval Rubber Co., Providence, R. I.  
Hodgman Rubber Co., New York.  
Tyer Rubber Co., Andover, Mass.

## Stamp Gum.

Alden Rubber Co., Barberton, Ohio.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Mattson Rubber Co., New York.  
Mechanical Rubber Co., Chicago, Ill.  
N. J. Car Spring & Rubber Co., Jersey  
City, N. J.  
New York Belting & Packing Co., N. Y.  
Western Rubber Co., Goshen, Ind.

SPORTING  
GOODS

## Foot Balls.

Cleveland Rubber Co., Cleveland, O.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York.

## Golf Balls.

Boston Belting Co., Boston.  
Davidson Rubber Co., Boston.  
B. F. Goodrich Co., Akron, O.  
Whitman & Barnes Mfg. Co., Akron, O.

## Submarine Outfits.

Hodgman Rubber Co., New York.

## SPORTING GOODS.

## Sporting Goods.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Hodgman Rubber Co., New York.  
Tyer Rubber Co., Andover, Mass.

## Striking Bags.

Pure Gum Specialty Co., Barberton, O.

## ELECTRICAL

## Electrical Supplies.

American Hard Rubber Co., New York  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Lake Shore Rubber Co., Erie, Pa.  
Joseph Stokes Rubber Co., Trenton, N. J.  
Massachusetts Chemical Co., Boston.  
Tyer Rubber Co., Andover, Mass.  
Western Rubber Co., Goshen, Ind.

## Friction Tape.

Boston Belting Co., Boston.  
Boston Woven Hose & Rubber Co.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
B. F. Goodrich Rubber Co., Akron, O.  
Massachusetts Chemical Co., Boston.  
Mechanical Rubber Co., Chicago.  
Home Rubber Co., Trenton, N. J.  
Revere Rubber Co., Boston-New York.  
Whitman & Barnes Mfg. Co., Akron, O.

## Hard Rubber Goods.

American Hard Rubber Co., New York.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Joseph Stokes Rubber Co., Trenton, N. J.

## Insulating Compounds.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Gutta-Percha & Rubber Mfg. Co., To-  
ronto.  
Massachusetts Chemical Co., Boston.

## Insulated Wire and Cables.

National India Rubber Co., Providence.

## Splicing Compound.

Home Rubber Co., Trenton, N. J.  
Western Rubber Co., Goshen, Ind.

## MISCELLANEOUS

## Architect.

Herbert S. Kimball, Boston.

## Books for Rubber Men.

India Rubber Publishing Co., N. Y.

## Cement (Rubber).

Boston Belting Co., Boston.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Manhattan Rubber Mfg. Co., New York.  
N. J. Car Spring & Rubber Co., Jersey  
City, N. J.  
New York Belting & Packing Co., N. Y.

## Chemical Analyses.

Durand Woodman, Ph. D., New York.  
H. L. Terry, Manchester, England.

## Chemical Expert.

Peter T. Austen, New York.

## Investments.

Consolidated Rubber Plantations Co. of  
Uvero, Boston.  
La Zacaupa Rubber Plantation Co., San  
Francisco.

## Rubber Code.

International Cable Directory Co., N. Y.

## Rubber Lands For Sale.

Ashmore Russian, London, England.  
J. J. Fitzgerald, Mexico  
O. H. Harrison, San Francisco.

## Rubber Planting.

Consolidated Rubber Plantations Co. of  
Uvero, Boston.  
La Zacaupa Rubber Plantation Co., San  
Francisco.

## Steamers.

Marine Iron Wks., Chicago.

## Thermometers.

Hohmann & Maurer Mfg. Co., Roches-  
ter, N. Y.  
Helios-Upton Co., Peabody, Mass.



## MACHINERY AND SUPPLIES FOR RUBBER MILLS.

RUBBER  
MACHINERY

## Acid Tanks.

Birmingham Iron Foundry, Derby, Ct.

## Band Cutting Machine.

A. Adamson, Akron, O.  
Birmingham Iron Foundry, Derby, Ct.

## Belt Folding Machines.

Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.

## Belt Slitters.

Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.

## Belt Stretchers.

Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
Hoggson & Pettis Mfg. Co., New Haven, Ct.

## Blowers.

B. F. Sturtevant Co., Boston.

## Boilers.

William R. Thropp, Trenton, N. J.

## Boot Trees.

Metal Last &amp; Tree Co., Boston.

## Buckles.

The Weld Mfg. Co., Boston.

## Calenders.

Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
Textile Finishing Machinery Co., Providence, R. I.

Thos. F. Stevenson, New York.

## Castings.

A. Adamson, Akron, O.  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.

## Chucks (Lathe).

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Churns.

American Tool &amp; Machine Co., Boston.

## Cloth Dryers.

Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.

## Clutches.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Crackers.

Birmingham Iron Foundry, Derby, Ct.

## Devulcanizers.

Birmingham Iron Foundry, Derby, Ct.  
Edred W. Clark, Hartford, Ct.  
Excelsior Machine Wks., Akron, Ohio.

William R. Thropp, Trenton, N. J.

## Dies.

Excelsior Machine Wks., Akron, Ohio.  
Hoggson & Pettis Mfg. Co., New Haven, Ct.

## Doubling Machines.

American Tool &amp; Machine Co., Boston.

## Drying Apparatus.

B. F. Sturtevant Co., Boston.

## Drying Machines.

Birmingham Iron Foundry, Derby, Ct.  
Textile Finishing Machinery Co., Providence, R. I.

American Vacuum Drying Machine Co., New York.

## Dynamos.

B. F. Sturtevant &amp; Co., Boston.

## Embossing Calenders.

Textile Finishing Machinery Co., Providence, R. I.

## Electric Power Transmission.

W. B. Smith Whaley &amp; Co., Boston, Mass.—Columbia, S. C.

## Engines.

B. F. Sturtevant Co., Boston.

William R. Thropp, Trenton, N. J.

## Engraving (Roll).

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Exhaust Fans and Heads.

B. F. Sturtevant Co., Boston.

## Factory Construction.

Herbert S. Kimball, Boston.

## Fans (Electric).

B. F. Sturtevant &amp; Co., Boston.

## Fans (Exhaust and Ventilating).

B. F. Sturtevant &amp; Co., Boston.

## Forges.

B. F. Sturtevant &amp; Co., Boston.

## Gas Exhausters.

B. F. Sturtevant &amp; Co., Boston.

## RUBBER MACHINERY.

## Gearing.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Generating Sets.

B. F. Sturtevant Co., Boston.

## Grinders.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Thos. F. Stevenson, New York.

William R. Thropp, Trenton, N. J.

## Hangers.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Hard Rubber Lathes.

A. Adamson, Akron, Ohio.

## Heating Apparatus.

B. F. Sturtevant Co., Boston.

## Hose Making Machines.

Birmingham Iron Foundry, Derby, Ct.

## Hose Wrapping Machines.

A. Adamson, Akron, Ohio.

Birmingham Iron Foundry, Derby, Ct.

## Hydraulic Accumulators.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Jar Ring Lathes.

A. Adamson, Akron, Ohio.

Birmingham Iron Foundry, Derby, Ct.

Excelsior Machine Wks., Akron, Ohio.

William R. Thropp, Trenton, N. J.

## Machinists' Tools.

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Matrixes.

Excelsior Machine Wks., Akron, Ohio.

## Mechanical Draft.

B. F. Sturtevant Co., Boston.

## Mixers.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Thos. F. Stevenson, New York.

William R. Thropp, Trenton, N. J.

## Motors (Electric).

B. F. Sturtevant Co., Boston.

## Moulds.

A. Adamson, Akron, Ohio.

Birmingham Iron Foundry, Derby, Ct.

Excelsior Machine Wks., Akron, Ohio.

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

Williams Foundry &amp; Machine Co., Akron, O.

## Pillow Blocks.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Post Hangers.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Power Transmission.

W. B. Smith Whaley &amp; Co., Boston.

## Presses (for Rubber Work.)

A. Adamson, Akron, O.

Birmingham Iron Foundry, Derby, Ct.

Boomer &amp; Boschert Press Co., Syracuse, N. Y.

Edred W. Clark, Hartford, Ct.

Excelsior Machine Wks., Akron, Ohio.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Thos. F. Stevenson, New York.

William R. Thropp, Trenton, N. J.

Williams Foundry &amp; Machine Co., Akron, O.

## Pumps.

Birmingham Iron Foundry, Derby, Ct.

Boomer &amp; Boschert Press Co., Syracuse, N. Y.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Thos. F. Stevenson, New York.

Racks for Boot and Shoe Cars.

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Reducing Valves.

Mason Regulator Co., Boston.

## Rollers.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Rollers (Hand).

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Second-Hand Machinery.

Philip McGrory, Trenton, N. J.

Thos. F. Stevenson, New York.

## Shafting.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

## Special Rubber Machinery.

Wellman Sole Cutting Machine Co., Medford, Mass.

## Spreaders.

American Tool &amp; Machine Co., Boston.

Birmingham Iron Foundry, Derby, Ct.

## RUBBER MACHINERY.

## Steam Traps and Specialties.

Jenkins Bros., New York.

Mason Regulator Co., Boston.

B. F. Sturtevant Co., Boston.

## Steel Stamps.

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Stitchers (Hand).

Hoggson &amp; Pettis Mfg. Co., New Haven, Ct.

## Thermometers.

Hohmann &amp; Mauter Mfg. Co., Rochester, N. Y.

Helios-Upton Co., Peabody, Mass.

## Tubing Machines.

A. Adamson, Akron, O.

Edred W. Clark, Hartford, Ct.

John Royle &amp; Sons, Paterson, N. J.

Williams Foundry &amp; Machine Co., Akron, O.

## Vacuum Drying Chambers.

American Vacuum Drying Machine Co., New York.

## Varnishing Machines.

Birmingham Iron Foundry, Derby, Ct.

## Ventilating Fans.

B. F. Sturtevant Co., Boston.

## Vulcanizers.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Thos. F. Stevenson, New York.

William R. Thropp, Trenton, N. J.

## Washers.

Birmingham Iron Foundry, Derby, Ct.

Farrel Foundry &amp; Mach. Co., Ansonia, Ct.

Thos. F. Stevenson, New York.

William R. Thropp, Trenton, N. J.

## Wrapping Machines.

A. Adamson, Akron, O.

Birmingham Iron Foundry, Derby, Ct.

Excelsior Machine Wks., Akron, Ohio.

FACTORY  
SUPPLIES

## Acid (Carbolic).

Barrett Mfg. Co., Philadelphia.

## Antimony, Sulphurets of.

GOLDEN.

Aetien-Ges. Georg Egestorff's Salzwerke, Linden, Germany.

Atlas Chemical Co., Newtonville, Mass.

GOLDEN AND CRIMSON.

Joseph Cantor, New York.

Stamford (Conn.) Rubber Supply Co.

Typke &amp; King, London, England.

## Balata.

George A. Alden &amp; Co., Boston.

## Baskets (Carrying).

Morris &amp; Co., Yardville, N. J.

## Benzol.

Barrett Mfg. Co., Philadelphia.

Samuel Cabot, Boston.

## Black Hypo.

Joseph Cantor, New York.

Typke &amp; King, London, England.

## Boxes (Wood).

Henry H. Sheep &amp; Co., Philadelphia.

## Carbon Bisulphide.

George W. Speaight, New York.

## Chemicals.

Toch Bros., New York.

## Colors.

Joseph Cantor, New York.

Toch Bros., New York.

Typke &amp; King, London, England.

## Crude Rubber.

George A. Alden &amp; Co., Boston.

Otto Meyer, Boston.

Rubber Trading Co., New York-Boston.

## Drills.

J. H. Lane &amp; Co., New York.

## Duck (Cotton).

J. H. Lane &amp; Co., New York.

Morris &amp; Co., Yardville, N. J.

## Fabrics.

Holden, Leonard &amp; Co., Boston.

## Fossil Flour.

Fossil Flour Co., New York.

## Gutta-Percha.

George A. Alden &amp; Co., Boston.

Rubber Trading Co., New York-Boston.

## FACTORY SUPPLIES.

## Hose Bands, Straps, and Menders.

Boston Woven Hose &amp; Rubber Co.

William Yerdon, Fort Plain, N. Y.

## Hose Brands.

Boston Woven Hose &amp; Rubber Co.

Hose Pipes, Nozzles, and Couplings.

Boston Woven Hose &amp; Rubber Co.

Eureka Fire Hose Co., New York.

Revere Rubber Co., Boston.

## Infusorial Earth.

Stamford (Conn.) Rubber Supply Co.

## Lampblack.

Samuel Cabot, Boston.

## Lasts (Aluminum).

Metal Last &amp; Tree Co., Boston.

## Lawn-Hose Supporters.

C. J. Bailey &amp; Co., Boston.

## Lead—Blue.

Fischer Lead Co., Chicago, Ill.

## Lead—Sublimed White.

Fischer Lead Co., Chicago, Ill.

## Manufacturers' Supplies.

Rubber Trading Co., New York-Boston.

Stamford (Conn.) Rubber Supply Co.

## Naphtha.

Barrett Mfg. Co., Philadelphia.

## Oils.

Akron Commercial Co., Akron, O.

## Paris White and Whiting.

H. F. Taintor Mfg. Co., New York.

## Pitch.

E. B. Weed &amp; Co., Fayetteville, N. C.

## Reclaimed Rubber.

Bloomingdale (N. J.) Soft Rubber Co.

New Century Rubber Co., Philadelphia.

New Jersey Rubber Co., Lambertville, N. J.

Pequanoc Rubber Co., Butler, N. J.

Philadelphia Rubber Wks., Philadelphia.

Raymond Rubber Co., Titusville, N. J.

Jos. Stokes Rubber Co., Trenton, N. J.

U. S. Rubber Reclaiming Wks., N. Y.

## AGENTS AND DEALERS.

G. Brice, Paris, France.

W. C. Coleman, Boston, Mass.

Philip McGrory, Trenton, N. J.

H. P. Moorhouse, Paris, France.

Rubber Trading Co., New York-Boston.

Wm. Somerville's Sons, Liverpool, Eng.

## Rubber Waste

Wm. H. Cummings &amp; Sons, New York.

W. C. Coleman, Boston, Mass.

United States Waste Rubber Co., Brockton, Mass.

## Scrap Rubber.

Bers &amp; Co., Philadelphia.

W. C. Coleman, New York.

Wm. H. Cummings &amp; Sons, New York.

Theodore Hoffeller &amp; Co., Buffalo, N. Y.

Philip McGrory, Trenton, N. J.

Wm. Somerville's Sons, New York.

Feist Strauss, Frankfurt a/M., Germany.

## Substitute.

Bonner Mfg. Co., Boston, Mass.

Joseph Cantor, New York.

Massachusetts Chemical Co., Boston.

Typke &amp; King, London, England.

Stamford (Conn.) Rubber Supply Co.

# THE REPUBLIC RUBBER CO.

MAIN OFFICE AND FACTORY  
YOUNGSTOWN, OHIO

PITTSBURG  
106 MARKET ST.

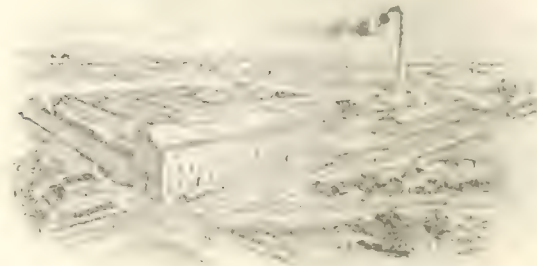
BRANCH STORE  
47 WARREN STREET  
NEW YORK

CHICAGO  
MARKET AND RANDOLPH STS.

MANUFACTURERS  
EXCLUSIVELY

**HIGH GRADE  
MECHANICAL  
RUBBER GOODS**

Our Policy is to Mainta'n Quality  
under all conditions



MOST MODERN  
MECHANICAL

**RUBBER GOODS**

FACTORY IN THE  
WORLD

Equipped Throughout with  
ELECTRICALLY OPERATED  
MACHINERY

PATENTEES AND SOLE MANUFACTURERS

**SEARCHLIGHT PACKING**  
**CROSS ARM** Wire Insertion  
Copper Joint **TUBULAR GASKET**

*Mention the India Rubber World when you write.*

## Invest in Shares of La Zacualpa Rubber Plantation.



OUR TWELVE YEAR OLD TREES PRODUCING RUBBER.

Interest payable January and July from the actual production and sale of rubber from cultivated trees.

This PLANTATION is acknowledged to be the one company that has done something and actually solved the problem of rubber cultivation.

It is highly endorsed from every source and its shares afford an investment not to be overlooked.

**LA ZACUALPA RUBBER PLANTATION,**

No. 713 MARKET STREET,

SAN FRANCISCO, CALIFORNIA.

EASTERN REPRESENTATIVES:

**BROOKS BROTHERS & COMPANY,**

No. 35 WALL STREET,

NEW YORK.

*Mention the India Rubber World when you write.*



# **REVERE RUBBER COMPANY.**

**Manufacturers of a  
HIGH CLASS of**

## **MECHANICAL RUBBER GOODS.**

**HOME OFFICE:**

**77 Bedford and 72 Kingston Streets,  
BOSTON, MASSACHUSETTS.**

**BRANCHES:**

**NEW YORK, N. Y., 59 Reade Street.  
PITTSBURG, PA., 2-8 Wood Street  
CHICAGO, ILL., 168 Lake Street.  
MINNEAPOLIS, MINN., 210 Nicollet Avenue.  
NEW ORLEANS, LA., 410 Carondelet Street.  
SAN FRANCISCO, CAL., 527 Market Street.**

**FACTORIES:**

**CHELSEA, MASSACHUSETTS.**

*Mention The India Rubber World when you write.*

# HIGH GRADE RUBBER GOODS

MADE IN CANADA

**BELTING  
PACKINGS  
VALVES  
VALVE SHEET  
TUBING  
and  
CASKETS**

**RUBBER HOSE**

—FOR—

**WATER  
SUCTION  
STEAM  
AIR  
Fire Protection  
ACIDS  
BREWERS  
Pneumatic Tools**

SUPERIOR  
.. IN ..  
QUALITY

SATISFACTORY  
.. IN ..  
SERVICE



Sole Manufacturers of the celebrated "MALTESE CROSS" and "LION" Brands Rubbers.  
The best fitting, best wearing and most stylish rubber footwear on the market.

SPECIAL ATTENTION GIVEN TO EXPORT ORDERS



## The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Mention The India Rubber World when you write.

Head Office Warerooms—45-49 Front St., W., TORONTO, CANADA.

= = THE = =

# GRANBY RUBBER CO.


HIGHEST GRADE

## RUBBER BOOTS, SHOES, AND CLOTHING.

### Factories: GRANBY, QUEBEC.

S. H. C. MINER, President,  
J. H. McKECHNIE, Gen'l Mgr.

Mention The India Rubber World when you write.



**JENKINS BROTHERS' VALVES.**  
Perfectly tight under all pressures of steam, oils or acids.  
Warranted to give satisfaction under the worst conditions.  
Reserved the **GOLD MEDAL** at the Pan-American Exposition.  
Insist on having the genuine stamped with Trade Mark.  
JENKINS BROTHERS, New York, Boston, Philadelphia, Chicago.

**PHILIP McGRORY,**  
TRENTON, N. J.  
**Wholesale Dealer in SCRAP RUBBER.**  
THE HIGHEST CASH PRICE PAID FOR NEW AND OLD, CURED AND UNCURED  
SCRAP RUBBER OF ALL KINDS.  
**Second-Hand Rubber Mill Machinery Bought and Sold.**

Mention The India Rubber World when you write.

# GORHAM RUBBER COMPANY,

Manufacturers and Distributors for the Pacific Coast and the Orient

OF RUBBER GOODS OF EVERY DESCRIPTION.

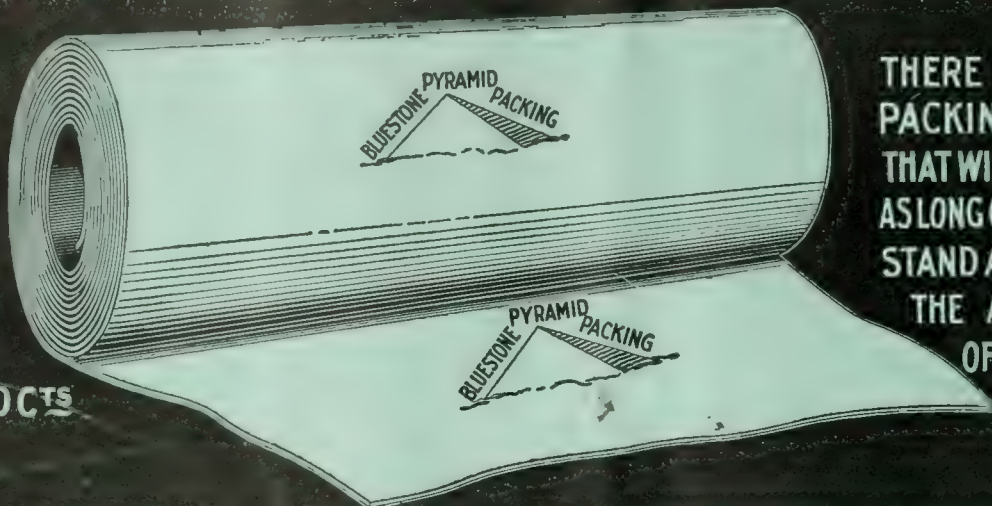
MAIN OFFICE: **SAN FRANCISCO, CALIF.** BRANCH: **SEATTLE, WASHINGTON.**

Mention The India Rubber World when you write.



# PYRAMID BRAND BLUESTONE HIGH PRESSURE PACKING

FOR STEAM &  
HOT OR COLD  
WATER &  
AND AIR &&  
PACKS EQUALLY  
WELL FOR ALL  
PRICE PER LB. 80 CTS



THERE IS NO  
PACKING MADE  
THAT WILL LAST  
AS LONG OR WITH-  
STAND AS WELL  
THE ACTION  
OF STEAM  
HEAT

## THE GUTTA PERCHA AND RUBBER MANUFACTURING CO.

NEW YORK  
126-128 DUANE ST.

CHICAGO  
96-98 LAKE ST.

SAN FRANCISCO  
30-32 FREMONT ST.

BOSTON  
71 PEARL ST.

PHILADELPHIA, PA.  
221 CHESTNUT ST.

## HOOD RUBBER CO.

### RUBBER

### BOOTS and SHOES

1856 — FORTY-SEVEN YEARS — 1903

EXPERIENCE

# TYRIAN DRUGGISTS' RUBBER GOODS

OF ALL DESCRIPTIONS.

RUBBER MOULD WORK A SPECIALTY.

**TYER RUBBER COMPANY,**  
Andover, Mass.

*Mention The India Rubber World when you write.*

*Mention The India Rubber World when you write.*

# INDIA RUBBER WORLD

CAOUTCHOUC  
HEVEA BRASILIENSIS  
DICHORPSS GUTTA  
GUTTA-PERCHA

Edited by HENRY C. PEARSON—Offices, No. 150 Nassau Street, NEW YORK.

Vol. XXVIII. No. 6.

S. N. SEPTEMBER 1, 1903.

35 Cents a Copy.  
\$8.00 Per Year.

## THE ALDEN RUBBER CO., BARBERTON RUBBER WORKS, MANUFACTURERS OF RUBBER GOODS.

The  
MASTER KEY  
Rubber Tiling.

Noiseless,  
Non Conducting,  
Non Slipping.

The ideal floor for  
Offices, Banks, Vesti-  
bules, Elevators and  
especially for places  
where electrical cur-  
rents abound.

Beautiful Color Effects.  
Designs Furnished.



THIS TRADE MARK GUARANTEES FULL VALUE.

BICYCLE,  
AUTOMOBILE  
AND  
VEHICLE  
TIRES,  
HOSE,  
PACKING,  
VALVES.  
MOLDED  
GOODS,  
FRUIT JAR  
RINGS.  
WHITE  
TUBING.

AKRON, OHIO and BARBERTON, OHIO, U.S.A.  
Akron Office, Arcade Block—Main Office and Works at Barberton

LONG DISTANCE TEL., AKRON EXCHANGE NO. 999.  
CABLE ADDRESS "ARCO AKRON."

Mention the India Rubber World when you write

**LAMPBLACKS especially for RUBBER MANUFACTURE.**  
SAMUEL CABOT, BOSTON, MASS

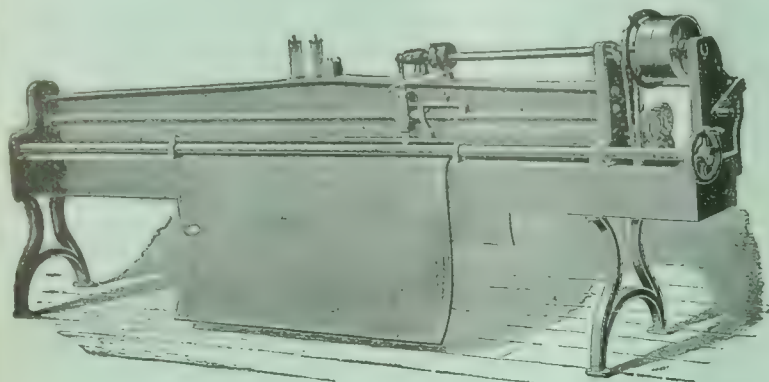


# For Stitching Rubber Belting

HIGHEST AWARD AT COLUMBIAN EXPOSITION.

Machine No. 9-1: For Stitching Parallel Rows on Canvas or Rubber Belting.

## POINTS OF EXCELLENCE.



- 1.—Two needles and two oscillating shuttles for forming two parallel lock-stitch seams in heavy canvas and rubber belting up to 100 inches wide and one and one-half inches thick.
- 2.—Powerful feed-rolls 16 feet long, capable of carrying material of several tons' weight, have a bearing the entire width of the material, thus ensuring uniformity and regularity in carrying forward the several thicknesses and giving elasticity to the stitching.
- 3.—The mechanical arrangement for raising and lowering the upper feed roller by means of a horizontal shaft extending the entire length of the machine, connected with the hinged bearings of the roller by bevel gears at each end and so operated as to be easily adjusted to any thickness of material.
- 4.—Largest and strongest sewing machine ever constructed, having a bed eighteen feet in length, with overhanging arm supported by and attached to both ends of the bed.

Salesrooms in Every City. Machines shown in practical operation at—

NEW YORK—Broadway and Prince Street.  
BALTIMORE—11 North Charles Street.  
ST. LOUIS—1124 Olive Street.  
KANSAS CITY, MO.—1209 Grand Ave.  
TOLEDO, OHIO—329 Huron St.

CLEVELAND—52 Water Street.  
BOSTON—128-132 Essex Street.  
CHICAGO—260-262 Fifth Avenue.  
TROY, N. Y.—251 River Street.  
MILWAUKEE, WIS.—236 Water St.

PHILADELPHIA—1210 Chestnut Street.  
CINCINNATI—115 West Third Street.  
INDIANAPOLIS—33 S. Pennsylvania St.  
ST. PAUL—402 Jackson St.  
LOUISVILLE, KY.—706 Jefferson St.  
ATLANTA, GA.—79 Whitehall St.

## THE SINGER MANUFACTURING CO.

# CONTINENTAL TYRES, CONTINENTAL MECHANICAL RUBBER GOODS.

CONTINENTAL CAOUTCHOUC & GUTTAPERCHA CO.,  
Hanover, Germany.

*Mention The India Rubber World when you write.*



## For General Compounding

"M.R." makes a perfect union with rubber. Prevents blistering, and the harsher action of free Sulphur. Absolutely acid proof. Has been used regularly by Rubber Manufacturers for the past three years.

GEO. A. ALDEN & CO., Boston, Mass.



Manufacturers of

**HIGH GRADE**

**MECHANICAL RUBBER GOODS**

**Belting = = = Hose = = = Packings, etc.**

**S**uperior in quality  
Satisfactory in service

**JAMES BENNETT FORSYTH**  
Gen. Manager

**GEORGE H. FORSYTH**  
Asst. Manager

Boston	New York	Buffalo	Chicago	St. Louis	Milwaukee	St. Paul	Seattle
Philadelphia	Baltimore	Atlanta	Mobile	New Orleans	Memphis	Cincinnati	
Pittsburgh	Detroit	Cleveland	Indianapolis	Kansas City	San Francisco	Portland	

*Mention The India Rubber World when you write.*





GOLD MEDAL AWARDED  
at  
PAN-AMERICAN EXPOSITION,  
1901.

## EUREKA FIRE HOSE CO.,

13 BARCLAY ST., NEW YORK.

MANUFACTURERS OF THE CELEBRATED BRANDS

“RED CROSS” (One Ply) “PARAGON” (Two Ply) “EUREKA” (Three Ply)

“U. S.” Brand Rubber Lined Cotton Fire Hose

Adopted as the Standard Factory Fire Hose by the Associated Factory Mutual Fire Insurance Companies, for Factory and Mill Fire Protection.

COTTON and LINEN HOSE of all grades, both plain and rubber-lined. All sizes.

These Goods are especially adapted for use in Woolen, Cotton, Silk, Print, Knit Goods and Carpet Mills, Dyeing and Bleaching establishments, Pulp and Paper Mills, Breweries and Distilleries, Sugar Refineries, Ice and Refrigerating Machinery, Chemical Works, Tanneries, etc. *Samples and full information given on application.*

## COTTON HOSE,

We Spin, Weave, and Line Our Own Goods.

## GARDEN HOSE,

New Lines—New Methods.

## BELTING and PACKING.

Empire Rubber Mfg. Co.,

NEW YORK.

CHICAGO.

BOSTON.

ST. LOUIS, MO.

Factories: TRENTON, N. J.

*Mention the India Rubber World when you write*

For HIGH GRADE  
Pneumatic Bicycle Tires  
and Solid Carriage Tires

Write to

KOKOMO RUBBER CO.

KOKOMO, INDIANA.

*Mention The India Rubber World when you write.*

Lake Shore Rubber Co.

Manufacture Mechanical Rubber Goods,

HOSE, BELTING, PACKING, VALVES,  
GASKETS, ELECTRICAL TAPE, OIL  
WELL SUPPLIES, Etc.

WRITE FOR PRICES AND SAMPLES.

Office and Works, ERIE, PA.

*Mention The India Rubber World when you write.*

EXECUTIVE OFFICES: CAMBRIDGE, MASS.  
 FACTORIES: CAMBRIDGE AND PLYMOUTH.



Nothing can be  
 better than Perfection  
 and the name is well applied  
 to our *multiple fabric* Belt. Under most  
 trying conditions it has shown that it is superior  
 to any belt produced. Particularly  
 adapted for hard drives  
 and fast running  
 machinery.

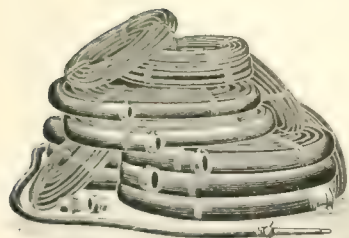


BRANCHES: NEW YORK      BUFFALO,      CLEVELAND,      CHICAGO,  
 PHILADELPHIA,      PITTSBURG,      ST. LOUIS,      SAN FRANCISCO

*Mention The India Rubber World when you write.*

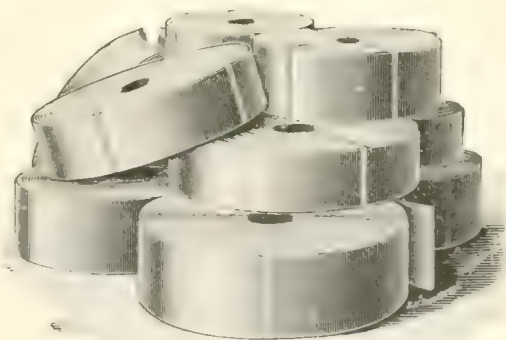
"ALL GOODS BEARING OUR BRAND ARE FULLY GUARANTEED."

## HIGH CLASS RUBBER GOODS.



### NEW PLANT

The most improved machinery,  
 Up-to-date methods coupled with  
 experienced workmen and capable  
 supervision enable us to meet  
 any competitor and give us  
 an advantage over many



## We Make

Hose, Belting, Packing, Valves, Gaskets, Mats,  
 Matting, Linen and Cotton Hose,

and many specialties as well as they can be made when the ability to turn out first grade goods is  
 united with the willingness to do so.



Our "Nubian" Packing is adapted for high or low pressure. It is  
 guaranteed to stand higher temperature than  
 any other packing, and will retain its strength and pliability under conditions that destroy other  
 packings. Flat and Tubular Gaskets made from "Nubian" Stock

## Voorhees Rubber Manufacturing Co.

BRANCH STORE  
 175-177 Lake St., Chicago.

18-40 BOSTWICK AVENUE,  
 JERSEY CITY, NEW JERSEY.

*Mention The India Rubber World when you write.*



# Rubber Surface Clothing

## Blankets and Horse Covers

## Mackintoshes and Rain Coats

We manufacture complete lines of the  
above and will be pleased to furnish  
samples and prices on application

# Hodgman Rubber Company

806-808 BROADWAY, NEW YORK

*Mention The India Rubber World when you write.*

**BEFORE YOU PLACE YOUR CONTRACT**

**....FOR....**

**G A R D E N   H O S E**

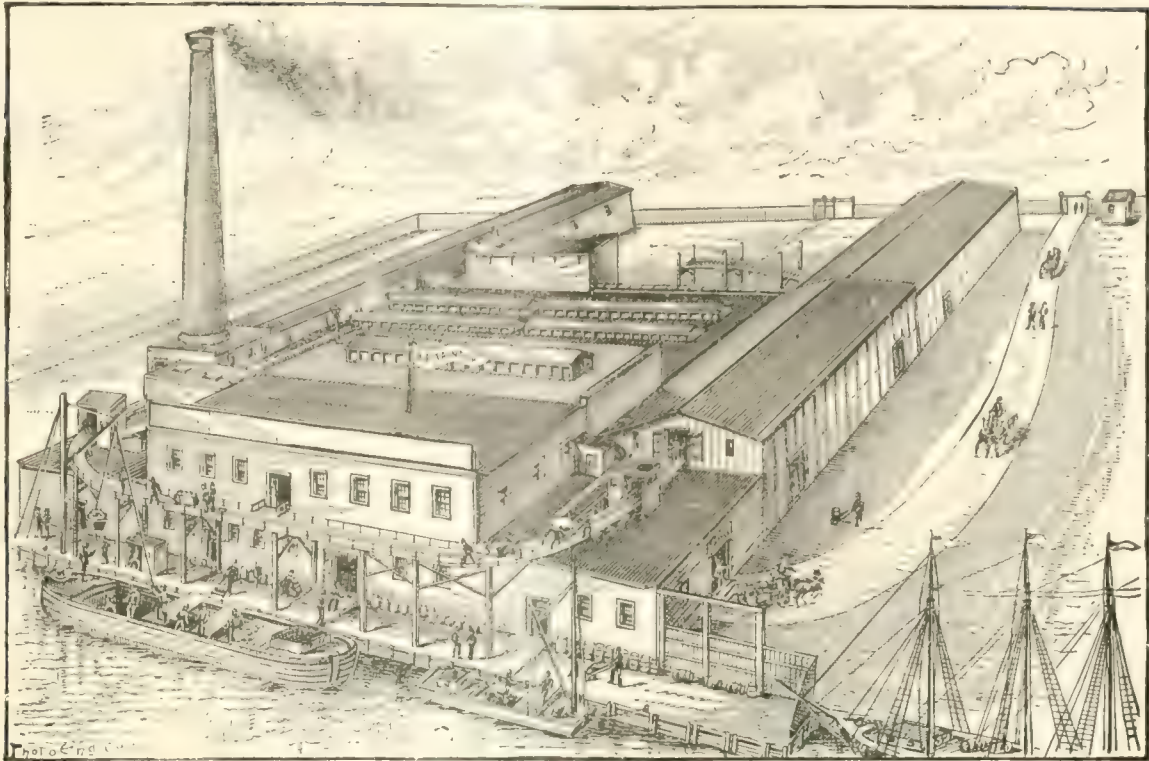
**WRITE US FOR SAMPLES AND PRICES.**

**TEN DISTINCT GRADES, EVERY ONE A WINNER.**

**CRESCENT BELTING & PACKING CO.**

**TRENTON, N. J.**

*Mention The India Rubber World when you write.*



## The H. F. Taintor Mfg. Co.

are the largest manufacturers of Whiting and English Cliffstone Paris White in this country.

All grades of Whiting prepared especially for use of Rubber Manufacturers, finely ground and bolted and *very* dry.

The "Westminster" brand of English Cliffstone Paris White is the finest made in the world, and is particularly suited to manufacturers of fine Rubber goods and specialties.

Samples can be had by mail.

Address

***No. 101 Beekman St.,***

***New York City.***

*Mention The India Rubber World when you write.*



FACTORIES AT MATTEAWAN, DUTCHESS CO., N. Y.

# NEW YORK RUBBER COMPANY.

INCORPORATED 1851.

Manufacturers of

**BELTING,  
HOSE,  
PACKING,  
ETC.**

**OF SUPERIOR QUALITIES.**

**HIGH GRADE  
Lawn and Garden Hose  
A SPECIALTY.**

**HIGH GRADE  
Lawn and Garden Hose  
A SPECIALTY.**

WAREHOUSE AND OFFICE:

**84 AND 86 READE, COR. OF CHURCH STREET, NEW YORK.**

Address P. O. Box 1160.

*Mention The India Rubber World when you write.*

## THE WHITMAN & BARNES MFG. CO.



CHICAGO, ILL.

CINCINNATI, O.

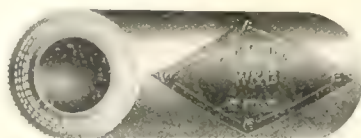
KANSAS CITY, MO.

Works at AKRON, OHIO.

NEW YORK, N. Y.

ST. CATHARINES, ONT.

LONDON, ENG.



*Mention The India Rubber World when you write.*

It is Oil Proof,  
It is Acid Proof.



*It is perfection for a Steam Joint.*

*Try It.*

*You will have the proof.*



# NEW JERSEY CAR SPRING & RUBBER CO.

General Offices and Works, - - - Jersey City, N. J.  
 New York, - - - - - 10 Barclay St.  
 Cleveland, - - - - - 190 Seneca St.

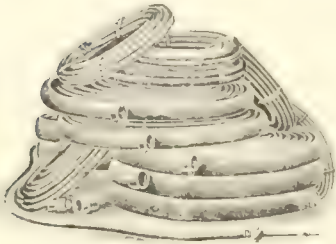
CHICAGO, ILL.

Distributing Agents, W. D. Allen Mfg. Co.,  
 151 Lake St.

MANUFACTURERS OF

## High Grade Rubber Goods

"Our name and brand a guarantee of quality."



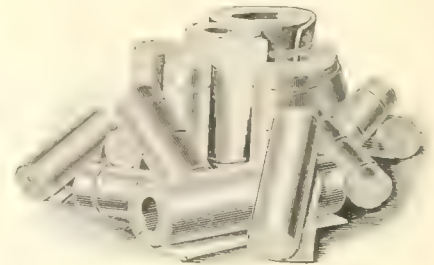
Air Brake Hose Rubber Belting  
 Steam Hose Steam Packing  
 Fire Hose Mats and Matting  
 Water Hose Valves, etc.

"Diamondine" Red Sheet Packing

"Hemisphere" Rubber Matting

Rubber Lined Cotton Fire Hose

Mechanical Rubber Goods for all purposes.



J. L. FIELDS, President.  
 J. J. FIELDS, JR., Vice-Pres't.

GEO. B. DICKERSON, Sec'y.  
 TOWNSEND COCKS, Treasurer.

*Mention The India Rubber World when you write.*

ESTABLISHED 1859.

## THE LIVERPOOL RUBBER COMPANY, Ltd. LIVERPOOL, ENGLAND.



*The highest grade of Rubber Boots and Shoes, "Liver" and "Ideal" Canvas Shoes, etc., etc.*

*High grade Mechanical, Engineering and Mill Work, Railway Springs, Valves, Buffers, Sheets, Insertion, Rings, Bladders, Deckles, Printers' Blankets, Hose, Belting, Mats, Packing, etc., etc.*

*Cycle and Carriage Tires, "Lockfast" pneumatic, single tube, cushion and solid.*

*India Rubber Thread.*

CHIEF OFFICE: 292 VAUXHALL RD., LIVERPOOL,  
 and at 34 Aldermanbury, London, E. C.,  
 20 Rue des Marais, Paris,  
 333 Kent St., Sydney, New South Wales.

Factories: Vauxhall Road, and Walton, Liverpool.

*Mention The India Rubber World when you write.*

USE THE RELIABLE  
**THERMIDOR**  
STEAM PACKING.



MANUFACTURED BY

**TRENTON RUBBER MFG. CO.**

TRENTON, N. J.

BRANCHES:

New York, Philadelphia, Chicago, Pittsburgh, St. Louis.

*Mention The India Rubber World when you write.*



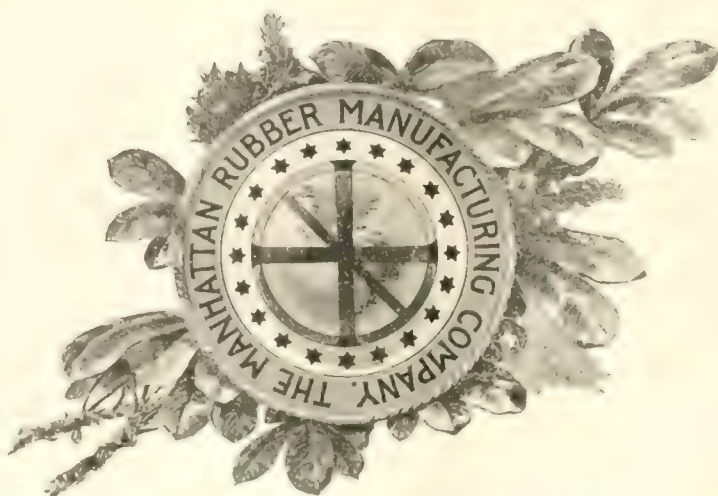
# THE MANHATTAN RUBBER MFG. CO.

CABLE ADDRESS  
MIALOGIA

18 VESEY STREET, NEW YORK.

TELEPHONES 7260 CORTLANDT  
7261 CORTLANDT  
7262 CORTLANDT

BELTING  
HOSE  
PACKING  
TUBING  
MATTING  
ROLLS



GASKETS  
TILING  
MOULDED  
GOODS  
IN EVERY  
VARIETY

—MAKERS OF—

## Mechanical Rubber Goods.

Factories: PASSAIC, N. J., on D. L. & W. R. R.

*Mention The India Rubber World when you write.*

**☞ We Manufacture Our Products by Mechanical Means. ☛**

## THE BLOOMINGDALE SOFT RUBBER WORKS,

Manufacturers of

THE FINEST GRADES OF

## Reclaimed and Devulcanized Rubber

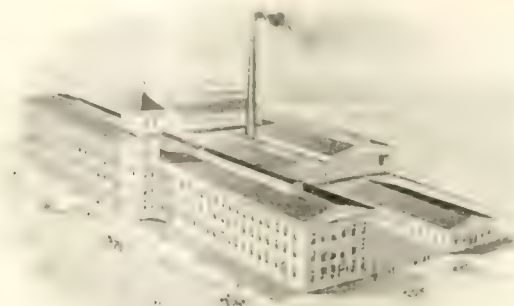
FOR

Manufacturing and Mechanical Purposes.

**BLOOMINGDALE, N. J.**

*Mention The India Rubber World when you write.*

# THE EUREKA RUBBER MFG. CO. OF TRENTON, NEW JERSEY.



Manufacturers of

**Rubber Carriage Drill and Duck, Cotton Rubber Lined Hose, and Mechanical Rubber Goods of Every Description.**

Factory strictly modern in design, with machinery of the latest and most approved description throughout, using only first class raw material, and producing nothing but reliable grades.

We solicit inquiries from the trade direct, or through our Branch Stores or Salesmen. We promise prompt attention to same.

FACTORY - - - TRENTON, N. J.

On the main line Pennsylvania R. R.

Branch Stores: CHICAGO:  
248 Randolph Street.

NEW YORK:  
55 Warren Street.

BOSTON:  
276 Devonshire Street.

*Mention The India Rubber World when you write.*

## BELTING

## BELTING

## BELTING

# BELTING

FOR EVERY POSSIBLE USE

## COMBINATION RUBBER AND BELTING CO.

Main Office and Works, BLOOMFIELD, Essex Co., New Jersey, U. S. A.

SALESROOMS -

NEW YORK:  
157 CEDAR ST.

PHILADELPHIA:  
43 N. SEVENTH ST.

CHICAGO:  
198 RANDOLPH ST.

*Mention The India Rubber World when you write.*



# DAVOL RUBBER COMPANY

ESTABLISHED 1874

MANUFACTURERS OF

## FINE RUBBER GOODS

IN

SOFT and HARD RUBBER

### PROVIDENCE, R.I., U. S. A.

PLANT OF THE DAVOL RUBBER COMPANY

*Mention The India Rubber World when you write.*

## THE HARDMAN RUBBER CO.

Druggists' Sundries.  
Stationers' Rubber.  
Moulded Goods.  
Hard Rubber Goods.

ESTIMATES CHEERFULLY FURNISHED

Factory and Office: BELLEVILLE, N. J.

TELEPHONE 1143a NEWARK

*Mention The India Rubber World when you write.*

## THE PURE GUM SPECIALTY CO.,

BARBERTON, OHIO.

MANUFACTURERS OF

TUBING All kinds, PURE GUM GLOVES (Any weight).

STEAM CURED GLOVES, HOUSEHOLD GLOVES

(Any color), FINGER COTS (All kinds),

FACE MASKS, ICE BAGS, ICE

CAPS, SLEEVES, NIPPLES,

BEAUTY BRUSHES.

Moulded Goods A Specialty.

RUBBER SPECIALTIES OF ALL KINDS

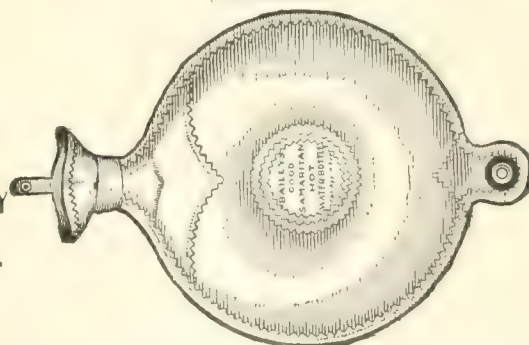
ALL GOODS GUARANTEED

*Mention The India Rubber World when you write.*

## Bailey's "GOOD SAMARITAN" Hot Water Bottle.

(TRADE MARK)

IT  
FITS  
EVERY  
SPOT.



SOFT  
AS A  
PIL-  
LOW.

MADE hollow disk in shape it adjusts itself to all parts of the body, and lays on it without holding or strapping. Being only about half the thickness of the ordinary water bottle, when filled, it is easy to place under the patient and comfortable to lie on.



For pain in the ear, teeth or face, the hollow disk gives to the affected parts hot air or steaming by placing in it a sponge wet with spirits or water.



Buttoning the two ends of the bottle together makes a perfect heater for the feet or to stand next to the body.

Only the best of material and workmanship are used in its construction, and every bottle is guaranteed.

5 inch diameter.....	Face Size, \$ 7.50 Doz.
8 inch diameter.....	10.00 "
10 inch diameter.....	12.00 "
11 inch diameter.....	15.00 "

MANUFACTURED BY

DAVOL RUBBER Co., Providence, R. I. TYER RUBBER Co., Andover, Mass.  
THE B. F. GOODRICH Co., Akron, O. THE SEAMLESS RUBBER Co., New Haven  
HODGMAN RUBBER Co., New York. HARDMAN RUBBER Co., Belleville, N. J.  
IDEAL RUBBER Co., Brooklyn, N. Y. MECHANICAL RUBBER Co., Cleveland.  
C. J. BAILEY & CO., Patentees, No. 22 Boylston Street, Boston.

# AMERICAN HARD RUBBER CO.,

THE INDIA RUBBER COMB CO.  
THE BUTLER HARD RUBBER CO.  
THE GOODRICH HARD RUBBER CO.

9-13 MERCER STREET, NEW YORK, U.S.A.

MANUFACTURERS OF

## COMBS, SYRINGES, CROWN WATER BOTTLES, DRUGGISTS' & STATIONERS' SUNDRIES.

EVERY DESCRIPTION OF HARD RUBBER GOODS.

*Mention The India Rubber World when you write.*

DR. H. TRAUN & SONS, Formerly

### Harburg Rubber Comb Co.

HARBURG AND HAMBURG, GERMANY.

Manufacturers of  
all kinds of

**HARD  
RUBBER  
GOODS.**



SPECIALTY:  
**HARD  
RUBBER  
COMBS.**

SOLE MAKERS OF THE CELEBRATED

Olive Doré, Helios, Reform and Sawing Man

BRANDS OF COMBS.

HEADQUARTERS FOR THE UNITED STATES:

**SCHRADER & EHLERS,**  
335 BROADWAY, NEW YORK.

*Mention the India Rubber World when you write.*

MOLD WORK A SPECIALTY.



## SPONGES

We are the first in  
the United States to  
make Rubber  
Sponges. Call for  
samples and prices.

### CHICAGO TIRE & RUBBER CO.

329-331 West Kinzie Street, - - CHICAGO, ILL.

*Mention The India Rubber World when you write.*

## YATMAN RUBBER CO.,

MOULDED SPECIALTIES

IN SOFT RUBBER.

ERASIVE RUBBER.

OFFICE AND FACTORY:

No. 608 Passaic Avenue,  
HARRISON, N. J.

TELEPHONE:  
523 HARRISON.

WRITE FOR ESTIMATES.

*Mention The India Rubber World when you write.*

## SYRINGE BOXES

OF WHITE WOOD, BASS, OAK, ASH, &c

FINE WORK. LOW PRICES. PROMPT SHIPMENT.

*Estimates and Samples Furnished on Application.*

ALSO ANY OTHER KIND OF

### FANCY WOOD BOXES MADE TO ORDER.

Extensive Facilities enable us to Guarantee Satisfaction.

### Henry H. Sheip Mfg. Co.

1702-10 RANDOLPH ST., - PHILADELPHIA, PA.

*Mention The India Rubber World when you write*

## The Akron Commercial Co.,

Animal, Vegetable and Fish Oils,  
Chemicals and Supplies for - - -

### POTTERIES, PLATERS AND RUBBER MANUFACTURERS.

WAREHOUSE AND TRANSFER,  
MANUFACTURERS' AGENTS, Etc.

**AKRON, OHIO.**

Office: 366 SOUTH MAIN STREET. Telephone, 894.

Warehouse: WEST CENTER STREET. " 422.

*Mention The India Rubber World when you write*

## Journal d'Agriculture Tropicale,

AGRICULTURAL, SCIENTIFIC, COMMERCIAL.

PUBLISHED BY

**J. VILBOUCHEVITCH,**

10, Rue Delambre, Paris, (France.)

Subscription: ONE YEAR, - - 20 FRANCS.  
SIX MONTHS, - - 10 FRANCS.

THE JOURNAL OF TROPICAL AGRICULTURE, SCIENCE, AND THE ARTS OF  
tropical cultivation, giving practical and scientific information and the  
scientific study of Cereals, Spices, etc. The JOURNAL is international in  
character, and is planned especially to interest readers in all lands where the  
French language is spoken or read.

*Mention The India Rubber World when you write*



In Every  
Essential  
Requirement

BANIGAN  
RUBBERS

Are Unexcelled



SEND YOUR ORDERS TO

Edward R. Rice, Buffalo.

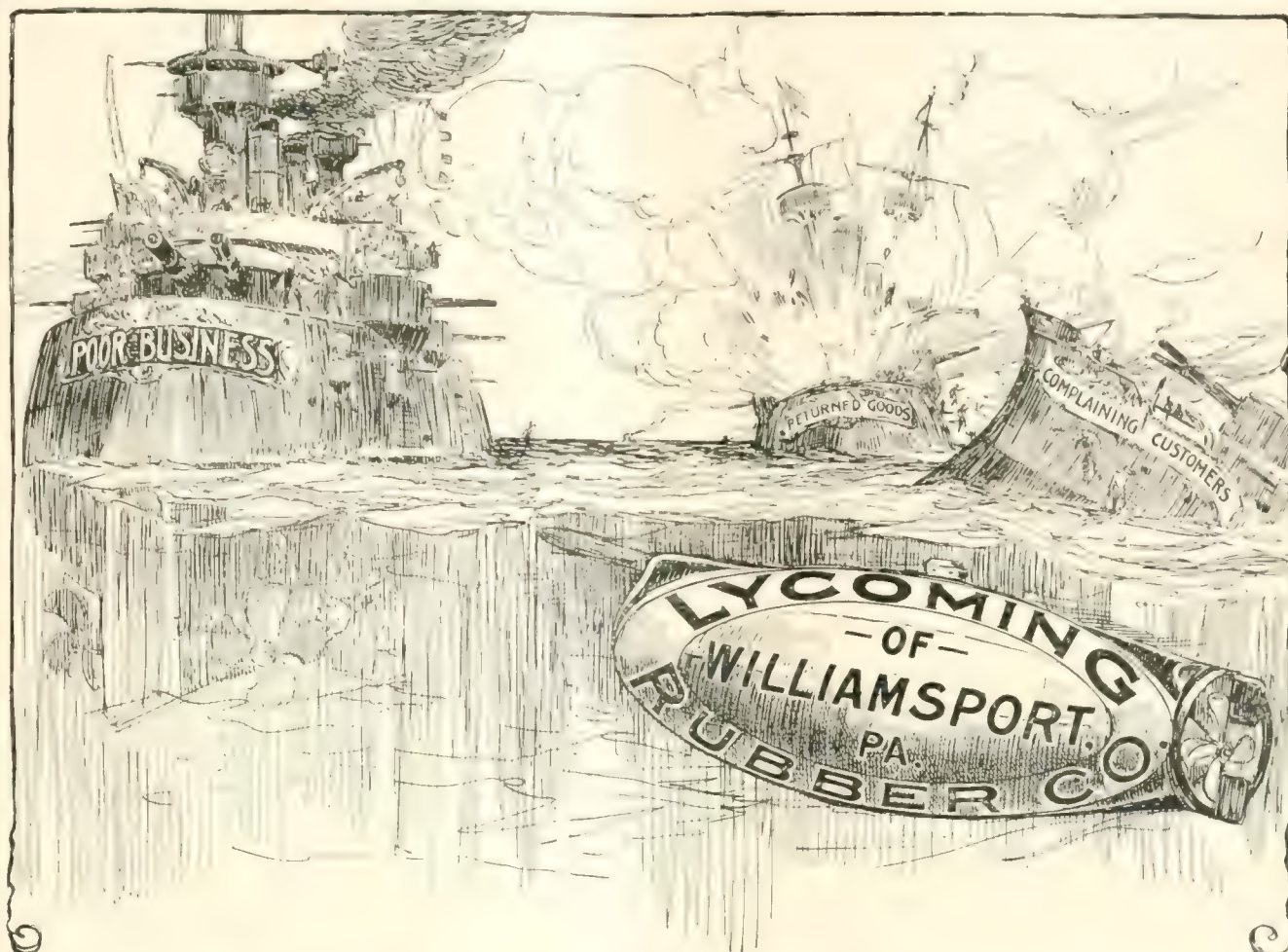
C. L. Weaver & Co., Boston.

Edward R. Rice, Chicago.

American Hand Sewed Co., Omaha.

Linthicum Rubber Co., Baltimore.

*Mention The India Rubber World when you write.*



## Sinking the Enemy

No wonder some rubber dealers have such a hard time of it. The fleet of the enemy is always watching to get a shot at them. There are "Complaining Customers," "Returned Goods," "Poor Business" and all the rest.

But the whole wretched lot of them can be sunk in a minute.



Do you see that submarine craft? That has cleared the seas for thousands of rubber dealers.

Try "LYCOMINGS"—and "Returned Goods," "Poor Business" and all the rest will disappear beneath the waves.



# The Eclipse Sectional Rainbow Gasket

$\frac{3}{8}$  in. }  
 $\frac{1}{2}$  in. } For Hand Holes.  
 $\frac{5}{8}$  in. }



$\frac{3}{4}$  in. }  
 $\frac{7}{8}$  in. } For Extra Large Joints.  
1 in. }

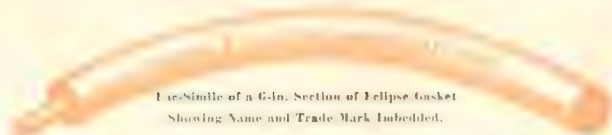


Fig. Simile of a 6-in. Section of Eclipse Gasket  
 Showing Name and Trade Mark Imbedded.

The Eclipse Gasket is red in color, and composed of the celebrated Rainbow Packing Compound. It will not harden under any degree of heat, or blow out under the highest pressure, and can be taken out and repeatedly replaced. Joints can be made in from three to five minutes.

## The Peerless Spiral Piston and Valve Rod Packing.

+++++

It will hold 400 pounds of  
 steam.

Once Tried Always Used.

+++++



+++++

Will run twelve months in  
 high speed engines.

+++++

## Success Semi-Metallic, Diagonal Expansion Spiral Packing, Rainbow Core.

For Steam,  
 Low or High Pressure.



Patented October 31, 1899.

For Hot or Cold Water  
 and Ammonia Machines.

## HOSE, BELTING, PACKING, VALVES and RUBBER TILING.

Largest manufacturers in the world of fine mechanical Rubber Goods.  
 Send for Catalogue.

MANUFACTURED PATENTED AND COPYRIGHTED EXCLUSIVELY BY

## The Peerless Rubber Manufacturing Co.

16 WARREN STREET, NEW YORK.

16-24 Woodward Ave., Detroit, Mich. 200-210 S. Water St., Chicago, Ill. 17-23 Beale St., and 18-24 Main St., San Francisco, Cal.  
 Corner Common and Tchoupitoulas Sts., New Orleans, La. 634 Smithfield St., Pittsburg, Pa.  
 1221-1223 Union Ave., Kansas City, Mo. 38 South Meridian St., Indianapolis, Ind.

Mention The India Rubber World when you write.



Published on the 1st of each Month by

## THE INDIA RUBBER PUBLISHING CO.

No. 150 NASSAU ST., NEW YORK.

HENRY C. PEARSON,  
EDITOR.HAWTHORNE HILL,  
ASSOCIATE.

Vol. 28.

SEPTEMBER 1, 1903.

No. 6.

SUBSCRIPTIONS: \$3.00 per year, \$1.75 for six months, postpaid, for the United States and Canada. Foreign countries, same price. Special Rates for Clubs of five, ten or more subscribers.

ADVERTISING: Rates will be made known on application.

REMITTANCES: Should always be made by bank draft, Post Office Order or Express Money orders on New York, payable to THE INDIA RUBBER PUBLISHING COMPANY. Remittances for foreign subscriptions should be sent by International Post order, payable as above.

DISCONTINUANCES: Yearly orders for subscriptions and advertising are regarded as permanent, and after the first twelve months they will be discontinued only at the request of the subscriber or advertiser. Bills are rendered promptly at the beginning of each period, and thereby our patrons have due notice of continuance.

COPYRIGHT, 1903, BY

THE INDIA RUBBER PUBLISHING CO.

Entered at New York Post Office as mail matter of the second-class.

## TABLE OF CONTENTS.

	PAGE.
<b>Editorial:</b>	
Unwarranted Alarm in Germany.....	407
A New Employment for Hose.....	408
The Manufacture of Inventors.....	408
Minor Editorials.....	408
<b>Literature of India-Rubber.....</b>	<b>410</b>
<b>New Trade Publications.....</b>	<b>410</b>
<b>The India-Rubber Trade in Great Britain.....</b>	<b>411</b>
.....Our Regular Correspondent	
[Nomenclature of Rubber, Triumphs of Rubber Analysis, Sources of Balata, Data Wanted on Insulation, The Waterproof Trade, Motor Tire Notes.]	
<b>The Obituary Record.....</b>	<b>413</b>
[Lewis L. Hyatt, James A. Wilson, George Jager.]	
[With Four Illustrations.]	
<b>Rubber Factory Appliances.....</b>	<b>415</b>
[Automatic Disc and Ring Cutter, Automatic Tubing Cutter, A New Tubing Machine, The Crowning of Rubber Covered Rolls, The "Umbrella Top" Screw Press, Patent Mold and Vulcanizer for Solid Tires.]	
[With Nine Illustrations.]	
<b>"The Great Para Rubber Plantation Co.".....</b>	<b>417</b>
[With Three Illustrations.]	
<b>Finances of a Rubber State [Amazonas].....</b>	<b>420</b>
<b>India-Rubber Goods in Commerce.....</b>	<b>421</b>
<b>British Imports of Gutta-Percha.....</b>	<b>422</b>
<b>Rubber Goods for South America.....</b>	<b>422</b>
<b>Recent Rubber Patents [American, British, German].....</b>	<b>423</b>
<b>Rubber Exploitation and Planting.....</b>	<b>425</b>
[Rubber Resources of Rhodesia, Sources of "Root Rubber," Notes on Planting Companies in Mexico and Elsewhere.]	
[With Three Illustrations.]	
<b>New Goods and Specialties in Rubber (Illustrated).....</b>	<b>428</b>
[An American Tennis Ball, The "Republic" Cross Wire Tire, The Crandall Golf Ball, Tenant's Puncture Proof Tire, The "Old Salt" Boot, "Agnota" Vest Pocket Punching Bag, For Branding Sheet Packings.]	
<b>Miscellaneous:</b>	
Rubber Protection in Nigeria.....	409
Exhaustion of Hevea Rubber.....	409
The Original Goodrich Factory, Illustrated.....	414
A Pioneer in African Rubber.....	414
"Tyres" in an Encyclopedia.....	416
The Cup of Melted Rubber.....	419
"Rubber" from Greasewood Again.....	420
The Acre Dispute Settled.....	421
Rubber Notes from Europe.....	429
<b>The Textile Goods Market.....</b>	<b>431</b>
<b>News of the American Rubber Trade.....</b>	<b>433</b>
[With Three Illustrations.]	
The Trade in Akron.....	430
The Trade in Trenton.....	431
<b>Review of the Crude Rubber Market.....</b>	<b>436</b>

## UNWARRANTED ALARM IN GERMANY.

OUR friends of the *Gummi-Zeitung* (Dresden), in some remarks quoted in these pages last month, sought to prove the destructive effect of Trusts upon industry, by an analysis of a business report of a certain great American rubber manufacturing corporation. Without assuming to defend the management of this particular company, or of Trusts in general, we may venture to offer some considerations suggested by the article in our German contemporary.

In the first place, the failure of one so called trust to earn large dividends can hardly be held to condemn the policy of industrial consolidation. For it happens that exceptionally good dividends have been earned for some years by another so-called trust in the United States, understood to have been organized by the man who is credited with the formation of the company criticized by the *Gummi-Zeitung*, and on very similar principles. We refer to the American Chicle Co., engaged in making a confection called "chewing gum," from the product of the Mexican chicle tree. The capital of this company is represented by \$3,000,000 in preferred and \$6,000,000 in common shares. Since 1899, when the Chicle company began operations, dividends have been paid regularly on both issues, at the rate of 6 per cent annually on the preferred shares and an average of more than 10 per cent. on the common. The total disbursement in less than four years has exceeded \$3,000,000; the company reports a substantial surplus; and the shares are quoted high in the market. It is doubtful whether the Chicle company represents a total actual investment of \$3,000,000; all its tangible property doubtless could be replaced for much less. The company, too, is as much a "trust" as any that exists in America, and yet the business carried on by it is more profitable to-day than when conducted formerly by the several constituent companies. May not this suggest to the *Gummi-Zeitung* that the failure of the United States Rubber Co. to show larger earnings may be due to some other reason than that it is composed of several formerly independent companies now brought under a central management?

There is another point. The rubber combination has existed for more than twelve years, during most of which it has paid satisfactory dividends. It has not of late undergone any organic change of base. It is just as much or as little a trust to-day as when its earnings were more liberal, and the latest business report makes a better showing, even by the *Gummi-Zeitung's* rules of analysis, than in the preceding year, indicating that its affairs do not grow worse the longer it remains a trust. If, this year, the former dividend rate should be restored would not this invalidate our contemporary's attack upon trusts?

The *Gummi-Zeitung* assumes to say what is the real capital of the rubber company, which is more than is known on this side of the Atlantic. Most of the constituent companies were formed a long time ago, with very little capital, and gradually expanded into large concerns. When they were consolidated their value was determined less



from the visible assets than by their earning capacity at the time. But the basis of the issue of securities was that the preferred shares should represent tangible assets and rank first for dividends; the common stock, issued "to represent the increased earning capacity by reason of the consolidation of the interests acquired," was to be entitled to any profits which might remain after paying the dividends guaranteed on the preference shares. A like rule has been followed in industrial consolidation generally, and it is a mistake to regard the nominal values of shares as the amount actually invested. If a dozen manufacturers combine and divide among themselves the shares which represent their respective interest in the consolidation, it matters little what the nominal value may be. The shares might be issued *sans designation de valeur*, as the French say; it comes to that when any are taken by the public, which is governed only by the prospective returns on the investment in fixing the market price of shares.

We trust that we shall not be understood as attempting to instruct our friends on the other side—or anybody else—since our thought has been only to help them to feel that perhaps the future of industry is not utterly dark. Whoever prefers to buy goods "not made by a trust" can still do so in the United States; at the same time, the "trusts" do not seem to be going out of business. Which shows that there is room for big and little concerns in the same market here, and we doubt not that the same is true of Germany and the rest of the world.

#### A NEW EMPLOYMENT FOR HOSE.

"THE man with the hoe" has come to be the pictured symbol of silent, hopeless defeat, but "the man with the hose," unless signs fail, is soon to be a triumphant exponent of victory. That is if the practical application of the plan of the superintendent of the County jail at Lafayette, Indiana, supports the theory. That worthy official, after a careful study of the strength and weakness of mobs, has decided that cold steel or bullets tend only to inflame, while cold water, applied with unction through a suitable make of fire hose, tends to placate gusty and unreasoning passion. He no doubt pondered long on the "Red Riot Hose" that scattered the fiery anarchists of Paterson, N. J. some months ago, and he has therefore, as a protection against mobs, persuaded the commissioners of his county to erect a stand pipe between the front and rear entrances of his jail. With an ample supply of hose both entrances can be guarded, and, if necessary, the whole structure swept clean.

The force of the water will be such that it will easily knock a man down and it would be hardly possible for a body of men to force an entrance against it. Further than this, no jailor could have the slightest qualm of conscience in turning to such a means of defence. He might be too tender hearted or too timid to shoot, but not to "turn on the hose." He might shrink from blood, but not from water. Again, the leader of a mob who faces the sheriff's gun, and perhaps dies, is for the moment a hero and is fully conscious of the fact, but the same man tumbled in a wet, gasping, swearing heap will be an instant subject for mirth.

The suggestion is a practical one, and if the lynching fever continues may well be turned to by all jailors as a way out of a

most difficult position. Further than this, if it were possible to add to the water some chemical that would cause a harmless but practically indelible stain to appear upon the person of the deluged one, what an after help it would be to the law in identifying mob leaders!

#### THE MANUFACTURE OF INVENTORS.

A MANUFACTURER writes to a New York newspaper, suggesting that the board of education offer prizes in manual training schools for the best inventions or improvements made by the boys in connection with their work, or their tools, or for any suggestions for improvements in connection with them. The reason for his interest is that for some time he has, in his own factory, put in operation a somewhat similar plan. His experience was as follows: During the first six months, there were only eleven suggestions for improvements. During the fourth six months, there were over seventy. This development, by the way, was from men who had shown before no inventive or suggestive genius at all. There is no question but what the suggestion has a practical value for manufacturers, depending somewhat, however, upon the branch in which they are engaged, and the ability of the manufacturer himself to discriminate between the creative and the imitative faculty—between invention, improvement, and suggestion. Take the rubber branch as a whole, for example. There have been few inventions, though thousands of patents have been issued. There have been countless hundreds of valuable suggestions, modifications, minor improvements, and imitations, many of which have been most profitable. In applying the scheme to the regular every day routine of factory work, it is easy to see where many a petty boss would capture the idea of some workman, and where one workman might claim credit for another's improvement; and it has even been whispered that the heads of concerns themselves have fathered the child of the employé's brain. If however, the plan had general merit, these minor difficulties would soon be swept out of sight. It would be most interesting to see the matter tried in some large mechanical rubber factory, for example.

"THE RUBBER INDUSTRY MAY BE REVOLUTIONIZED" is a stock headline in certain newspaper offices, which lately has been displayed over accounts of rubber obtained from the so-called "greasewood" of Colorado. The story of a certain marvelous "rubber shrub" in Mexico is being repeated, the idea being that the gum can be collected so cheaply that it will find a wide place in the rubber industry, even if not equal to the best Caoutchouc. But it seems reasonable to suppose that the first cost of a ton of this stuff, gained at the rate of a spoonful for each plant destroyed, would be higher than that of real rubber, of which several pounds may be collected from the same tree year after year. And if the material is less valuable, as well as more expensive, it is not clear why manufacturers should be interested in it.

AFTER THE HARVESTING OF A POTATO CROP there are no more potatoes to be had from the same field without first planting a new crop. The same condition applies to the so-called "root rubber," of which so much has come out of Africa. It is true that the roots of the rubber plants in no way resemble potatoes in shape, but otherwise the comparison holds good. As an authority quoted on another page says: "The surface, after the natives have collected their rubber, resembles an orchard or meadow which has been upturned by a grub-seek-

ing hog." It is not probable that the natives will do any re-planting, since so many years would be required for a new growth of this peculiar rubber; hence the more of the product marketed, the sooner will the supply become extinct.

THE DETAILS OF THE NEW LOAN made by the great rubber producing state of Amazonas (Brazil), given on another page, are not a flattering commentary on the management of public finances at Manáos. The export duties on rubber alone, which alone produce over \$3,000,000 (gold) in a year, are a certain source of revenue of very long standing and one that grows with the expansion of the trade. The public expenditure is confined mainly to the city of Manáos, with a population of 40,000, which is the political and commercial capital of the state. The support of this highly concentrated community draws upon all the resources of Amazonas, a state as large as Great Britain, France, Germany, Spain, Belgium, and the Netherlands combined. Yet the new state loan of \$7,300,000, in 5 per cent. thirty year gold bonds, to supersede all prior obligations and to constitute the total public debt, had to be placed at a discount of 15 per cent. Evidently the possession of the cream of the trade in "Pará" rubber tends neither to the development of wealth among the people, nor to the prosperity of the public treasury.

A REPORT ON RUBBER PLANTING in Mexico and Central America, by Mr. Cook, an expert of the United States department of agriculture, in charge of investigations in tropical agriculture, is now understood to be in the hands of the government printer. We do not consider the brief summary of this report which has found its way into the newspapers to be a sufficient basis for criticism, and shall reserve fuller consideration until the complete document is in hand. One sentence in the newspaper summary, however, appears to be worthy of immediate quotation, namely:

Should the raising of rubber trees on a large scale prove a failure, the number of persons affected would be very great.

Precisely. And if the bottom should drop out of the sea, the leakage would be even greater.

A CERTAIN LEARNED JUDGE in Milwaukee has ruled that automobiles must be equipped with bells, as "the horn does not make noise enough." It is to be hoped that his opinion will not prevail, for, in the first place, the sound of the horn at once suggests an automobile, while a bell might mean a scissors grinder, an auction, or a dinner, any of which may be dodged at one's leisure. Further than this, the sound of the horn carries quite as far as the bell, the learned judge to the contrary notwithstanding. And then, the business end of the horn is of rubber, which to some people, at least, is a sufficient recommendation.

### RUBBER PROTECTION IN NIGERIA.

THE reckless exhaustion of rubber in the British colonies of Lagos and Gold Coast, in West Africa, suggested to the authorities of Southern Nigeria, in 1900, to form a forestry department, the first work of which was to deal with the preservation of the extensive rubber forests in the Benin territories. Regulations were drawn up for enforcement by the forestry inspector, restricting the extraction of rubber to certain seasons and certain methods; besides which the natives were instructed, through their head men, in the importance of preserving the rubber trees. Certain forest reserves have been

declared, in which the gathering of rubber is prohibited between February 15 to May 31 in each year, and its exportation between March 1 and May 31, and it appears that this rule—certainly with regard to exportation—is capable of being enforced.

### EXHAUSTION OF "HEVEA" RUBBER.\*

IS the natural caoutchouc which we obtain from the *Hevea* liable to fail some day? Such is the question which presents itself as a result of the every day constantly increasing use of this precious substance.

From having traveled through the various regions, we well know where the *Hevea* grows, and we are acquainted with the great extent of the Amazonian basin; but the *gomeros* (rubber gatherers) are also each day penetrating further into the depths of the forests which line the streams of this little known region, and after a few years' working they must go still further in search of other virgin *gomales* (rubber producing trees).

The objection may be made that the *gomales* of the lower Amazon have been worked for the last thirty years, but we reply that they are no longer large producers, and that those of the Tocantins are exhausted. From our observations extending over a period of seven years, we know that the trees may be methodically used four years in succession, but after such a period they require time for recuperation.

As a result of a methodical harvesting the *gomales* can be periodically worked, but there is no doubt whatever that if the exportation of caoutchouc from Pará during a period of thirty years had been annually 25,000 tons, as in 1899, the Amazonian forests would have been penetrated into much further than they have to-day.

By admitting an output of 500 kilograms of caoutchouc per year as a product from an *estrada* comprising 150 trees, scattered over a space of 15 hectares [=37 acres], the 25,000 tons of caoutchouc exported from Pará annually, coming from the Amazonian basin, will represent the product from 7500 square kilometers [=about 2900 square miles] of *gomales*. While the Amazonian basin measures fully 5,600,000 kilometers square, we must not count on more than a twentieth part of this territory as containing the *Heveas*. The latter are not found growing close together; they are scattered throughout the depths of the forest which borders the water courses for a distance of several kilometers, besides being quite variable in frequency. The remainder of the forests do not contain a single *Hevea*. There are also immense *prairies* where only a hardy grass grows and a few useless shrubs; and finally, there are the swamps, the water courses, and the mountainous regions.

Consequently, we can only calculate on about 280,000 square kilometers [=108,118 square miles] of forest area capable of supporting the growth of the *Heveas*. We must allow for a reduction of half of this figure for the *gomales* territory known at the present time; consequently there remains 140,000 [=54,059 square miles] square kilometers of virginal *gomales*.

It is quite certain that exhaustion is not imminent, but in spite of all the uncertainty which such calculations possess, we are brought face to face with the fact that in twenty years—perhaps ten—all the streams of this immense Amazonian basin will have been explored. By that time, the caoutchouc *lianes* of Africa also having been exhausted, and the natural *gomales* producing less and less, the remunerative period for the *Hevea* plantations, which are being formed to-day, will commence. The rubber supply of the future will be secured from these plantations.

\* From *Journal d'Agriculture Tropicale*, Paris.



## LITERATURE OF INDIA-RUBBER.

KOLONIAL-WIRTSCHAFTLICHES KOMITEE. KUNENE-SAMBESI-EX-  
pedition. Bericht über die [Gotha] [P. 1-100] [Brosch.]  
[Gotha] [P. 1-100] [Brosch.]

THE West African river Kunene, flowing into the Atlantic at 17° 30' S. latitude, marks for some distance the boundary between German Southwest Africa, on the south, and the Portuguese colony of Angola, on the north. The boundary line projects beyond the Kunene, nearly half across the continent to the Zambesi. North of this boundary, from the Atlantic to the Zambesi, and within the limits of Angola, lies the vast concession of the Companhia do Mossamedes, with 25,000,000 francs capital, out of whose plans grew the suggestion of a railway from Port Alexandre, on the seacoast, to the Transvaal, and it was to report upon the little known country along the proposed route that an expedition was planned, in which the semi official German Colonial Economic Committee joined. Herr Baum, the representative of this committee, and a botanist of note, has reported in this volume a résumé of the tour to the Zambesi and return, and in detail on the resources of the country, while assistance has been rendered by members of the staff of the royal botanic museum at Berlin and by other experts in reporting on the collections made on the expedition. Professor Dr. Warburg contributes a summary of the botanical results. There are likewise expert reports on the zoological collections, and so on.

The interest of the work for the rubber branch lies in the very complete accounts given of "root rubber" (*wurzelkaukschuk*), which abounds through a great part of the region traversed, practically no other rubber being found there. Descriptions are given of the leading species yielding this rubber, with views of the plants, and of all the steps in the native process of preparing rubber from them. The book is in fact the most important contribution yet made to the world's knowledge of this singular class of plants, from which so much rubber has been obtained underground, without its source being understood until recently. The region in which this work was studied particularly was in the sandy plains of eastern Angola, among the rivers flowing into the Zambesi.

The book is handsomely printed and richly illustrated, in the style of the reports published by the same committee on India-rubber expeditions to West Africa and Central and South America, mentioned already in these pages.

## IN CURRENT PERIODICALS.

LA Culture des Arbres a Caoutchouc. By Monsieur Dinet. [Resume of a report to the fifth planting congress at Malang, Java, in October, 1902.] = *Revue des Cultures Coloniales*, Paris. XII-121, 122 (March 20, April 5, 1903). Pp. 179-182; 202-206.

Dissertation Critique sur la Multiplication des *Isonandá gutta* (*Palaquium*). By Charles Rivière. = *Revue des Cultures Coloniales*, Paris. XII-118-121 (February 5, 20, March 5, 20, 1903). Pp. 65-71; 97-106; 134-139; 170-175.

Le *Funtumia elastica* ou Caoutchouc de Lagos. By Emile De Wildman. = *Industrie et Commerce du Caoutchouc*, Brussels. I-4 (April, 1903). Pp. 80-81.

Les Nouvelles Presses à Vulcaniser. By René Bobet. = *Industrie et Commerce du Caoutchouc*, Brussels. I-3, 4, 5, 6 (March, April, May, June, 1903). Pp. 60-61; 81-83; 102-103; 125-126.

Sur les Plantes Utiles du Sud de L'Angola. [Relates to Caoutchouc plants.] = *Revue des Cultures Coloniales*, Paris. XII-127 (June 20, 1903). Pp. 366-368.

Les Plantations d'*Hevea* dans les Établissements des Détroits. (The *Hevea* plantations in the Straits Settlements.) By Henry Jumelle. [Including a letter from E. Mathieu, Singapore; discussing results obtained and in prospect.] = *Revue des Cultures Coloniales*, Paris. XIII-128 (July 5, 1903). Pp. 6-14.

## NEW TRADE PUBLICATIONS.

THE PEERLESS RUBBER MANUFACTURING CO. (New York) devote their Catalogue No. 58 to engineers' specialties, including their "Rainbow" sheet packing—of which it is stated that 2000 tons were made and sold in 1902—"Eclipse" gaskets, various special piston and spiral packings, tubing and hose for pneumatic tools, air brake and steam hose, belting, and so on. Prices are given, together with descriptive points regarding many of the specialties noted. The catalogue is helpfully illustrated. A copy will be sent to any one interested who may apply for it. [3½" × 6½". 44 pages.]

THE COMBINATION RUBBER AND BELTING CO. (Bloomfield, New Jersey) have brought out a new illustrated priced catalogue of Mechanical Rubber Goods, embracing all the standard lines usual in such catalogues, and many specialties in addition. It is particularly full in details relating to belting and hose. Special makes of hose are offered for various purposes—for use in maple sugar making, sandblasts, spraying vineyards, and so on. Several pages are devoted to rubber rolls, in which line the Bloomfield factory was a pioneer. The value of the catalogue is enhanced by the insertion of blank pages for memoranda. [5½" × 7¾". 157 pages.]

BOSTON BELTING CO. (Boston, Massachusetts) issue an illustrated catalogue of Rubber Mats, Matting, and Treads, with particular attention given to the advantages of perforated rubber mats, in connection with which a number of attractive designs are given. [5¾" × 8¾". 24 pages.]

THE GOODYEAR TIRE AND RUBBER CO. (Akron, Ohio) issue their Catalogue C 41, devoted to Carriage tires (solid, cushion, and pneumatic), Tire Machines, and Supplies. It includes a manual for the applying of vehicle tires, the various operations being indicated by good illustrations. It is a handsome publication, concise, and easy of reference. [6" × 9". 32 pages.]

PIRELLI & CO. (Milan, Italy), the variety and completeness of whose trade publications have been noted before in these columns, have issued a brochure entitled "Considerations on the Employment of Insulated Wires in Aërial Lines on Insulators," which forms a helpful guide to those whose business it is to draw up specifications for work of the class referred to. It is not written in the form of advertising matter, the only reference to the name Pirelli appearing on the title page, and is printed on good paper in excellent taste. [8¼" × 12". 18 pages.]—We have received from them also a sheet mounted on rollers, giving views of their extensive India-rubber and cable factories.

BUFFALO DENTAL MANUFACTURING CO. (Buffalo, New York) issue their priced catalogue "C" of Vulcanizers and Their Appurtenances, for the Dental Laboratory, illustrating a wide variety of such products, and indicating that the dental profession is by no means confined to a narrow field in the application of rubber to their work. This company, by the way, have been engaged for 38 years in the manufacture of dental vulcanizers, having been the first to enter the field. [6" × 9". 24 pages.]

## ALSO RECEIVED.

A. G. SPALDING & BROTHERS, New York = Spalding's Spring and Summer Sports. [Catalogue] No 303. Season 1903. 96 pages.

The M. Lindsay Rubber Co., New York = Agnota Rubber Gloves. 8 pages.

The Canton Rubber Co., Canton, Ohio. = The Canton Seamless Hot Water Bottle. 4 pages.

The Stodder Tire Co., Nos. 90-92 West Broadway, New York. = Tire Talks [relating to Stodder puncture proof single tube and "clincher" tires]. 8 pages.

## THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

*By Our Regular Correspondent.*

IN the course of a retrospect of the rubber industry, delivered at the recent Congress of Applied Chemistry, at Berlin, Dr. C. O. Weber indulged in a tirade against the use of such terms as "Caoutchouc," "India-rubber" and "Gummi." They were designated as childish and absurd, and it was suggested by the author that the term "poly-

**NOMENCLATURE.** prene,' expressive of the chemical constitution of the body, should be adopted instead. Now it is evident that if the old terms which now convey definite impressions to the sellers as well as to the units of the vast army of buyers are to suffer substitution by a chemical word, it will be necessary to educate the public in chemistry, otherwise the change would merely mean the substitution of one parrot cry by another. At the present time the vast majority of those concerned know little and care less as to how many ethylene bonds are contained in each rubber hydrocarbon molecule, and any attempt to effect a reform in nomenclature—a reform which, from a scientific point of view is, I admit, eminently desirable—would probably be resented as an unwarrantable tax. I think before pushing the matter to extremes it would be desirable to bring forward some conclusive evidence that the progress of the chemical side of the industry has indeed been hampered by a popular but inexpressive nomenclature. I do not feel sure that any paralysis with which the industry has been seized is traceable to this cause, and certainly I should expect those few who have at any time paid attention to the chemistry of rubber to have made themselves fully acquainted with the fact that from a chemical point of view the use of the terms gum in America and gummi, gomme, gomma, etc., on the Continent was quite erroneous and misleading. Seeing that in applied science the market is the master and the chemist the servant, I do not look forward with any great degree of confidence to the realization of Dr. Weber's aspirations, however much I may be inclined to sympathize with the spirit which prompted their expression. Those who are opposed to any change will doubtless point to many words which are mere concatenations of letters but which undeniably answer in every respect the purposes for which they are requisitioned.

THE recent case in which an American government analyst found sulphur in crude rubber is not without importance. In

**TRIUMPHS OF ANALYSIS.** this particular case perhaps a little free sulphur has got into the rubber in the coagulation process, and it would of course be absurd to classify the rubber as "manufactured." But this question apart, it is noticeable that analytical researches carried on with precision have of late shown that plenty of substances contain foreign bodies in minute quantities whose presence was quite unexpected. Where these discoveries lead to accusations of negligence or fraud it will be recognized that the cases assume serious aspects. With regard to sulphur in rubber, if the element is found in the free condition, it must have been added, but if sulphur is found as a result of an oxidation test there is no evidence of its addition because sulphur is a normal constituent of plants and is probably to be found in varying amounts in the leaves and other parts of the rubber trees as a constituent of the protoplasm. The wide occurrence of arsenic in nature was not suspected years ago, and to-day when it has been found to be a constituent of yolk of egg and other bodies too numerous to mention, to prove poisoning by arsenic is anything but the

easy task it was supposed to be only a few years ago. Again there have been numerous prosecutions for adding salicylic acid to jam, but this acid has recently been found to occur as a normal constituent of strawberries. I see that Dr. Weber has recently announced that he has discovered copper in raw rubber and the details of his analyses will undoubtedly prove of interest. If such proves to be more universal than particular the point will prove of great assistance to counsel for cloth manufacturers in disputes as to the premature decay of waterproofed cloth. It has long been known that copper pigments are found in the feathers of certain species of birds but the metal is certainly not on the somewhat limited list of elements which enter into the composition of plants. As chemical research will undoubtedly prove a more general distribution of the elements than has been supposed to be the case it will be important to have quantitative results so as to form standards of purity to satisfy the demands of law and commerce. The arsenic in rubber goods question died out with the same rapidity which characterized its appearance as it was shown that the amount present was quite negligible from a hygienic standpoint. It will be incumbent now on the discoverer of copper in rubber to give figures, which I fully imagine will prove quite reassuring to the trade.

IT is noticeable in recent consular returns that the Guianas seem to be returning to their old position as large producers of

**BALATA.**

Balata, a position from which they were ousted a few years ago by Venezuela. Of course business generally in the latter country has been upset during the last twelve months, and the more stable political conditions existing in the Guianas put those who are engaged in exploiting their resources in a more favorable condition. I notice that the "Statesman's Year Book" refers to the exports of Balata from Venezuela as Gutta-percha, which is of course an inaccuracy, though one which is not by any means confined to this important publication. It has been suggested that some details with regard to the use of Balata in Great Britain would be of interest, but owing to the conservatism shown by those firms, chiefly in the belting trade, who use the bulk of the imports, it is not easy for an outsider to write accurately on the subject.

UNDER this headline an interesting paragraph appears in the July issue of THE INDIA RUBBER WORLD. It is concerned

**DATA WANTED ON INSULATION.**

with the intention or desire of the American Institute of Electrical Engineers to collect particular items of trade information for circulation among the members. From what I understand as to the fraternity existing among American manufacturers, there is nothing surprising in this departure of the American Institute. It is not quite clear to me whether the publication of the notice in THE INDIA RUBBER WORLD is tantamount to an invitation to foreign firms to join in this gratuitous dissemination of useful knowledge, but if this is so I am much afraid that from England, at all events, the response will be very meager, that is, from firms actually engaged in manufacture. Consultants might be willing to give publicity to facts in their possession, but our manufacturers of electric cables have the reputation of being exceedingly reticent as to the details of their several businesses. And one can hardly blame them for this attitude, since it is recognized that business is carried on



for purely personal interests, and not by any means as an illustration of Benthamite ideals. In saying that collaboration on this side will only be obtained with difficulty, I do not say that it would not be attended with advantage. It was suggested to me recently that as there are now recognized standards of purity for copper and other materials, there might be a regular series of rubber mixings of which the electrical constants were known and which could always be relied upon to give similar results. At present the various cable companies have their own formulas which they make up themselves or get made up by rubber works to their specification. Perhaps a general comparing of notes might result in the recognition of certain rubber mixings as best suited to the purpose for which they are intended, and no doubt the results of the American enquiry will be studied with interest by those who are not disposed themselves to contribute their quota of information.

AT the moment the predicted improvement in the macintosh trade has not made itself evident, and reports from firms who

#### THE WATERPROOF TRADE.

are specially laid out for this branch continue to be of a gloomy character. The macintosh of course is not extinct; in fact it is almost as much in evidence as ever among those classes for whom it was primarily introduced—that is, among sportsmen and agriculturists and others whose occupations take them out in all weathers. It is the town dweller, whose custom led to so great an expansion of the trade, who is the defaulter responsible for the present stagnation. The tar distillers have been hit pretty severely, solvent naphtha having recently been bought as low as 5 pence per gallon instead of three or four times that figure as in former times. Despite the present unfavorable position of the trade, there are no actual failures to record because the firms concerned have either gone into the rainproof business, or else where the business is a general one they have devoted their energies to other goods with the idea of minimizing the loss and of tiding over until better times, though opinions differ a good deal as to the probability of the macintosh ever again becoming an article of large popular demand.

THE annual report of the Leyland and Birmingham Rubber Co., Limited, is satisfactory reading, the dividend being 8½ per cent. against 7½ and 6¼ per cent. respectively for the two preceding

#### LEYLAND RUBBER REPORT.

years. Being situated in a country district and with ample land of their own for extensions, the company are in a more favorable position for extensions than are a good many of its competitors whose premises are in confined town areas. When referring to advantages which the company enjoy, an important factor in the person of Mr. J. E. Baxter must not be overlooked, his long association with the trade having been marked by uniformity in success.

I UNDERSTAND that the flexible wheel—that is, a wheel of which the rigid spokes are replaced by steel springs—is again receiving attention in France. The idea is not a new one, at least as far as cycles are concerned, but it never attained any attention except that accorded to a freak. The object of course is to save the expense of pneumatic tires, though looking at the weight of metal necessitated in such a complex structure it is clear that the saving is not in first cost but in renewals always supposing that the flexible wheel comparts itself properly and does not need constant attention.—Mr. E. H. Seddon, who I regret to say has recently had a serious motor accident, has brought out a new tire which is being a good deal talked about, but as it is as yet only in the trial stage I shall reserve details for a future occasion.—It is somewhat doubtful whether much good will be effected by the circular issued by the Dunlop company explanatory of the so-

called defects shown by their tire in the Gordon Bennett cup race. At the same time it is important that it should be known that the failure was due to the use of a wrong make of tire—that is, a too shallow one—and not to any inherent defect in the tire itself. It is now generally recognized that the increased speeds demand a deeper tire, and these are now being fitted by motorists who have previously used the narrower ones.—In advertisements the Collyer Tyre Co. insinuate that the failure of the British to pull off the race might be attributed wholly or in part to the fact that the Collyer tire was not used, a statement that certainly cannot be refuted, though at the same time one of not much intrinsic value.—I do not gather that those of our rubber manufacturers who have hitherto held aloof from the motor tire business are particularly eager to enter into the arena and this chiefly owing to the risks that have to be faced. If a tire turns out unsatisfactory the fact seems to get plenty of gratuitous advertisement with consequence of an exceedingly discouraging nature. As this is not the case with other classes of rubber goods, they prefer to limit their efforts to goods where occasional failure is not so disastrous.

WITH regard to this company I was from the outset of its formation, about three years ago, rather sceptical of its success

#### THE ANCHOR CABLE CO.

and from a variety of reasons. Before going into a business nowadays it is advisable to pay due regard to what reasonable prospects of success exist in face of existing competition; and all the more if the business is one that requires the highest technical skill. The sale of the works at Leigh, Lancashire, to the Callender company, though at a loss to the shareholders, is as good a thing as could be done under the circumstances I should think. I understand that the purchasers intend to carry on the works as a Northern branch of their Thames works. The great river has been considered in the past as an almost indispensable adjunct to the cable business, but opinions seem to be changing somewhat. I hear that one of the large cable companies on the river is contemplating an entire move into the midlands owing to vexatious restrictions imposed by the London County Council, though it may turn out that this is only a threat.

THE interesting travels in Mexico recently described in this Journal bring to my mind the subject of a substance called "Mexican Gum." I obtained a sample of it some years ago from a rubber works but I am not aware that it has ever been put to any practical application.

#### MEXICAN GUM.

It seems to consist chiefly of a resin with possibly a little low class rubber, woody fiber, sand, etc. I cannot imagine myself that the stuff can have any value, but as it has been at one time at any rate put before the rubber trade it would be interesting to hear if anything is known of its use in America.

As the facts of the case seem to be imperfectly understood I may explain that the arrangement made by Mr. E. J. Byrne with the Dunlop Rubber Co. when the latter absorbed the Dunlop Pneumatic Tyre Co., has been terminated. The agreement was that Mr. Byrne should act as expert adviser for twenty years at the handsome salary of £2,500 per annum, he not to be interested otherwise in the rubber trade. The arrangement was terminated some time ago for a lump sum agreed upon between the parties.

#### AN EXPLANATION

THE St. Petersburg (Russia) *Official Messenger* reports the discovery of a rich deposit of asbestos in the Irkutsk district—on the line of the Trans-Siberian railway, in the Balkan mountain region—and the formation of a company to exploit it. Preliminary tests are said to show that at a depth of one foot the asbestos is equal in quality to the Canadian product.

#### MOTOR TIRE NOTES.

# THE OBITUARY RECORD.

**L**EWIS LEGRAND HYATT, who quietly passed from life at his residence in London, on August 1, probably had been interested in the India rubber industry longer than any one now living. He was born at Wilton, Connecticut, on February 20, 1820. At the age of 25, being already married, he became connected with Ford & Co., at New Brunswick, New Jersey, then just established for making rubber shoes under the Goodyear vulcanization patent of 1844. This firm was composed of John Ross Ford and James Bishop, with Christopher Meyer superintendent. In 1852 Mr. Hyatt



LEWIS L. HYATT.

and Mr. Meyer patented a machine for making in one piece the heel and sole of a rubber shoe, which proved to be an important invention, and is still in use. In 1855 the first rubber shoe factory in Europe was established near Paris, by the American firm of Hutchinson, Henderson & Co., who in France adopted the name Compagnie Nationale du Caoutchouc, and Mr. Hyatt went with them as superintendent. At the same time the firm of Norris & Co., also Americans, were starting at Edinburgh what became, in 1857, the North British Rubber Co., Limited, and in 1859 Mr. Hyatt became superintendent of their rubber shoe department, filling the place for ten years, during which time he also superintended the organization of a waterproof clothing branch. Here Mr. Hyatt was interested with his earliest business associates, for Messrs. Meyer, Ford, and Bishop were among the founders of the North British company. On leaving Edinburgh Mr. Hyatt received the following letter:

MR. L. L. HYATT, Edinburgh—  
*Dear Sir:* On the eve of your departure from Edinburgh, and the severance of your relations with this Company, it affords me great pleasure to hand you the following resolution which was unanimously passed to-day at a full meeting of the board of directors:

Extract from minutes of Directors of the North British Rubber Co., Limited, held in the Company's registered office on the 10th day of October, 1860.

"Mr. Norris reported that Mr. Hyatt was about to leave the Company's service, to return home. The Directors unanimously resolved to record their high appreciation of Mr. Hyatt's services

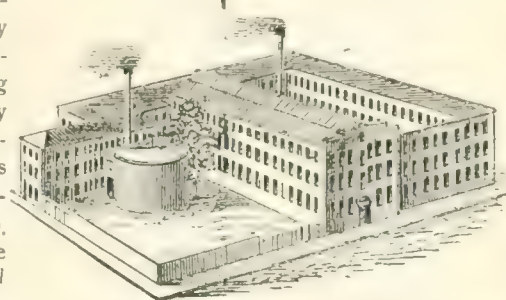
during the ten years he has been engaged with the Company, he having during the whole period acted with the greatest zeal and energy toward its interests. The Directors further requested Mr. Norris to communicate this resolution to Mr. Hyatt and express their best wishes for his future happiness and prosperity." Yours truly,

NORTH BRITISH RUBBER COMPANY, LIMITED.

H. S. LEE, Secy. & Manager.

Edinburgh, October 1, 1860.

Mr. Hyatt had purchased an interest in the company on going to Edinburgh, and on leaving sold his shares at 350. Returning the same year to the United States, Mr. Hyatt joined in forming the Hyatt Rubber Co., at New Brunswick, in which the shares were held equally by himself and Messrs. Ford and Meyer. Mr. Hyatt was president, Mr. Meyer treasurer, and James Bishop Ford (son of John R. Ford) secretary. This became later the New Jersey Rubber Shoe Co., which was merged with the United States Rubber Co. in 1892. The premises occupied were those originally used by Horace H. Day in his rubber work at New Brunswick; it was here that Christopher Meyer took his first lessons in rubber. In the view given on this page, the street in front is Richmond; on the left is Nelson, on the right Dennis, and in the rear (beyond some buildings not shown in the picture) Hiram street. The corner portion adjoining the chimney to the right was the original building used by Day, the remainder having been added by successive rubber concerns before the Hyatt Rubber Co. came in. The cylindrical structure in the yard enclosed the vulcanizers.



DAY'S NEW BRUNSWICK FACTORY.

Afterwards used by Hyatt Rubber Co. and New Jersey Rubber Co.

The plant was burned in August, 1876, and the New Jersey Rubber Shoe Co. (as it then was) rebuilt on another site, in Little Burnett street, which building is still in use.

Soon after the fire Mr. Hyatt retired from business and spent some years in travel in Europe. He next became interested in the celluloid manufacture, in Paris, which in 1886 he transferred to the British Xylonite Co., Limited, of London, an important enterprise, with which he remained connected until his death. In some reminiscences contributed by Mr. Hyatt to THE INDIA RUBBER WORLD (January 1, 1901—page 103) he wrote: "In 1894 I celebrated my golden wedding—my married life having been almost coincident with my business career, and my wife having proved an excellent partner in



MR. HYATT'S RESIDENCE AT MILLTOWN, N. J.

He lived in the house (the one standing) before first going to Europe.



both, and the most cheery of counsellors and most faithful of help-meets in the vicissitudes inseparable from a life so busy and full of varied risks and interests. She shares with me our well-earned repose in our cosy home in Stroud green." Mr. Hyatt suddenly became very feeble, a few weeks before his death, which resulted from exhaustion due to old age. At his bedside was his son, Edgar S. Hyatt, of Plainfield, New Jersey, who had lately arrived on a visit.

JAMES A. WILSON.

JAMES A. WILSON, proprietor of the Housatonic Rubber Co., at Bridgeport, Connecticut, died at his home in that city on August 6, after a brief illness. He was born in New York city, September 13, 1837, and in time became a resident of Newtown,



Conn., where he practised law, besides representing the town in the state legislature several terms. Fifteen years ago he removed to Bridgeport, where he became interested in the rubber reclaiming industry, carried on by the company above named. Mr. Wilson served in the Civil war in the Fifth regiment of Connecticut volunteers, and at the time of his

death was a member of the Grand Army of the Republic, of the Fairfield county bar, and of the Algonquin Club (Bridgeport), and was a thirty-third degree Mason. For many years he was high priest of Pyramid temple, Nobles of the Mystic Shrine. Mr. Wilson was an exceedingly genial man, and very popular both in business and social circles. The interment was at Newtown, on August 8. Mr. Wilson is survived by his widow and a daughter and three sons, all the sons having at some time been engaged in Bridgeport journalism. One of them, Justin Wilson, will be actively connected with the Housatonic Rubber Co., which will continue in business.

GEORGE JAGER.

GEORGE JAGER, of the Liverpool Rubber Co., Limited (Liverpool, England), passed away at his home on July 9, the interment taking place at Lindall Cloughton. Mr. Jager was the surviving partner in the firm of George Jager & Sons, sugar refiners of Liverpool and Leith. Some fifty years ago his father came from Hanover Germany, started a refinery in Liverpool, and established a very large and successful business. His son, whose death we announce, was born in Liverpool and educated at the Liverpool Institute. He took hold of the management of the sugar business about thirty years ago, and until the establishment of the foreign sugar bounties, carried it on with conspicuous ability. He joined the board of the Liverpool Rubber Co., Limited, about ten years ago, and was a most attentive and useful director, particularly good at grasping new suggestions and lending them his energetic support. He was a man of great decision of character, most energetic, and in private life one of the most genial of friends. He was a member of the Liverpool Reform Club, a moderate Liberal in pol-

itics, and much interested in athletic sports, being at one time captain of the Wallasey Golf Club. He leaves three sons, his eldest, Harold, a barrister at law, and Bertram and Arthur carrying on the business of George Jager & Sons, sugar refiners. Mr. Jager visited the United States in the latter part of 1895, with Manager Tippet, in connection with the purchase of rubber machinery for the Liverpool company.

### THE ORIGINAL GOODRICH FACTORY.

YEARS ago, when Dr. Benjamin F. Goodrich was just starting in the rubber business, he struck up a friendship with that veteran rubber man, Mr. Wheeler Cable. In the course of the correspondence that followed, the Doctor referred to the little factory that he had established in Akron, Ohio, and enclosed in one of his letters a photograph of it—probably the only one ever taken. Later this building was raised two stories, other buildings were erected near it, and the plant so changed that the identity of the original factory was entirely lost. Then later came the tremendous expansion of the busi-



ORIGINAL FACTORY OF THE B. F. GOODRICH CO.

ness, the tearing down of the old buildings, and the construction of the present aggregation of huge brick structures.

Occasionally during this growth some of the older members of the company regretted that no picture of the Goodrich beginning was in existence. A few months ago, however, Mr. William J. Cable came across an old photograph, which he fancied might interest the Goodrich company. He sent it to Akron, and it was recognized as a picture of the original plant. The Goodrich company are to be congratulated on securing this most interesting reminder of the past. It is now thirty-three years since Dr. Goodrich went out from the East and established the rubber industry at Akron.

### A PIONEER IN AFRICAN RUBBER.

SIR JOHN KIRK, G. C. M. G., K. C. B., F. R. S., of England, is spoken of by the Zanzibar *Gazette* as having "practically created the rubber trade of the east coast of Africa." His experience with that region began in connection with the first expedition of Dr. Livingstone, 45 years ago. Later he was British consul general at Zanzibar, and recently he has served on the government commission for the construction of the Uganda railway, the completed line of which he has been inspecting. Sir John is best known, however, as a botanist and naturalist, and an important rubber species, *Landolphia Kirkii*, is called after him.

## RUBBER FACTORY APPLIANCES

### AUTOMATIC DISC AND RING CUTTER.

THE machine shown in the illustration herewith is designed to cut, in ten hours, 80,000 bottle discs, rings for stoppers, and other similar rings of rubber, while formerly a woman was able to cut by hand, within the same time, only 30,000 to 40,000 bottle discs, and still fewer rings. This machine cuts simultaneously four pieces, which are conveyed to the circular knife on a support with up and down motion. It works automatically and accurately to  $\frac{1}{10}$  millimeter. Besides an exact and perfectly uniform cut, as well as great capacity, the machine presents the following further advantages: The stock does not have to be mounted on a core or mandrel, nor does it have to be cut in short determined lengths, but can be fed to the machine in any desired length, thus saving much waste. The feed is effected

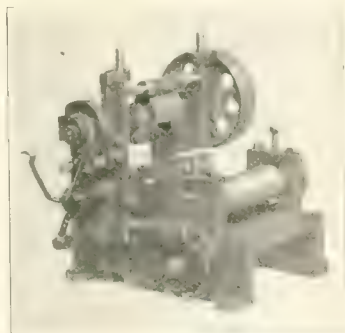
by an ingeniously constructed automatic mechanism of four cylinders, two of which are rubber covered. For the various diameters of stock, readily interchangeable metal guides are employed.

The thicknesses to be cut are easily and accurately adjusted on a scale provided for that purpose on the machine. In order to avoid the constant refilling of the upper basin by a workman, and also dry cutting, a pump is attached to the machine which

pumps the water used for cutting back into the upper basin. The manipulation of the machines being the most simple imaginable, a boy can easily attend to three or four of them. [Max Müller, Hannover-Hainholz, Germany.]

### AUTOMATIC TUBING CUTTER.

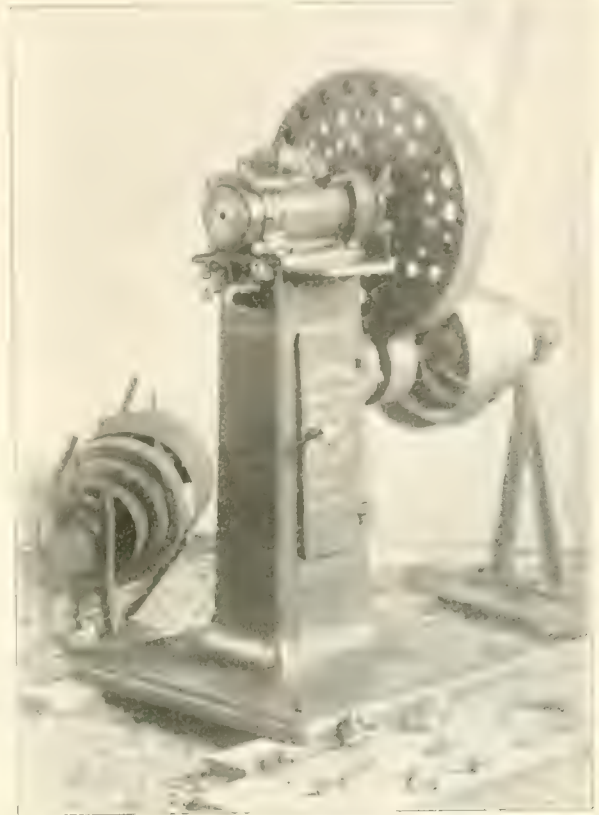
In the early days of the rubber manufacture, when tubing was made by hand and usually in 6 foot lengths, the cutting of the ends, or into special lengths, was a task that required a sharp knife, some muscle, considerable skill, and much time. After a time a variety of simple cutters were evolved, that shown in the illustration being the latest type. This machine is simple, compact, and rapid. The tubes, ten in number, are laid in the grooves shown in the fore-front, and the machine set for the length of cut desired. With the application of the power the tubes run through with remarkable speed and drop



in bunches on the other side. The cut is clear and clean and all of the tubes are exactly alike as to length. One of these machines will do the work of ten hand cutters, and not work up to speed at that. [Excelsior Machine Works, Akron, Ohio.]

### A NEW TUBING MACHINE.

THE tubing machine for rubber, of which an illustration is here shown, has a number of special advantages. In the first place, by the use of four needle valves, it has but one water pipe and one steam pipe. The screw, which is of steel, has a double increase pitch, so that it kneads the gum before delivering it through the die, in compressed form. The bore is perfectly clear, with no undercuts from the spider, making a

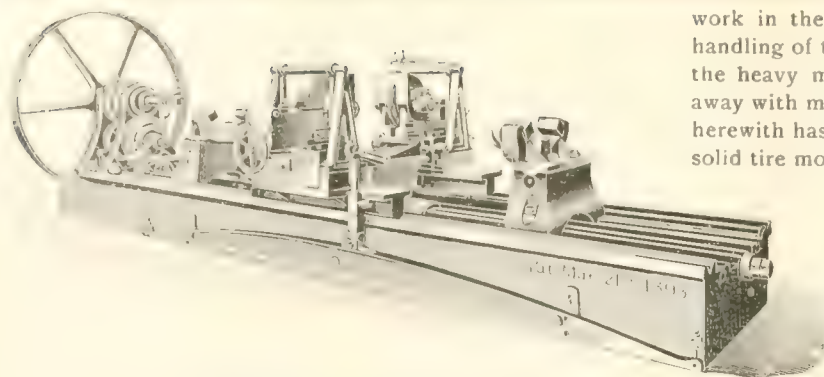


change of stocks very easy and rapid. In changing dies it is not necessary to take off the head. By the use of the spanner and the loosening of a couple of set screws the change is easily effected. The steam jacket also extends clear to the front of the die so that no torch or gas jet is needed to make the gum flow easily. The gears are Brown & Sharpe cut gears and the machine is built especially for fine work, from  $\frac{1}{8}$  to  $\frac{3}{4}$  inch, inclusive. [Excelsior Machine Works, Akron, Ohio.]

### THE CROWNING OF RUBBER COVERED ROLLS.

THE old time Poole grinder is historic. Its adaptation to the needs under consideration, a change that makes it unique, consists in a tapering device which allows of the accurate crowning of rolls to the thousandth of an inch. To digress a moment, the writer well remembers when expert rubber manufacturers scoffed at the idea of a spring in huge calender rolls that necessitated crowning, but no one takes such a position to-day. Only those of the rubber manufacturers who supply the wants of the paper trade know how accurate the crown on a roll must be, but a variation of one or two thousandths of an inch from the correct amount delivers the sheet of paper thin in the middle or at the edges and condemns the roll. The machine ordi-





narily sent out to rubber manufacturers will handle a roll 28 to 30 inches in diameter and 13½ feet long. The manufacturers, however, have at their shops one that handles rolls 36 inches in diameter, and 160 inches long. Numbers of rubber manufacturers in the line of mechanicals are equipped with these machines, but it is the users of rubber covered rolls, the paper manufacturers, who are the chief purchasers of them. In this industry they are used not only for crowning the rubber rolls, but also for brass rolls and for the chilled iron callender rolls. [The Farrel Foundry and Machine Co., Ansonia, Connecticut.]

#### THE "UMBRELLA TOP" SCREW PRESS.

In small mold work in rubber, where the screw press is used



it is often an advantage for the workman to be able to apply the power on a line with his chest and shoulders, instead of reaching as high or higher than his head. It is far less fatiguing to the operator and a better leverage is obtained. It was for exactly these reasons that the type of press here shown was designed. The hand wheel has ample clearance, and if greater leverage is desired, its diameter may be materially increased. Indeed, the manufacturer is to-day supplying them much larger than on the press shown, which is from a photo-

graph of the first one built, in which the "knock" principle is made use of. [A. Adamson, Akron, Ohio.]

#### PATENT MOLD AND VULCANIZER FOR SOLID TIRES.

THE rubber solid tire, of whatever size or type, is as a rule made in a long straight two part mold. In the process of cure this mold is either put into a large steam press, or, the plates being fastened together by some 30 bolts, it is placed in a vulcanizer. The latter is the more common way and entails much

work in the opening and closing of the vulcanizer head, the handling of the hot bolts every half hour, and the swinging of the heavy molds in and out of the curing chamber. To do away with much of this detail, the mold-vulcanizer illustrated herewith has been produced. Described briefly, it is the usual solid tire mold made with an upper and lower platen, except that these platens are much thicker, and are chambered to admit steam for the curing. The upper platen has what are substantially square chambers separated by baffle plates, in the alternate ends of which are openings causing the steam to zig-zag in its course through the platen thus heating every part. In the lower platen the steam chamber consists of longitudinal steam pipes separated by narrow septums which causes the steam to circulate back and forth for even heating. Both up-

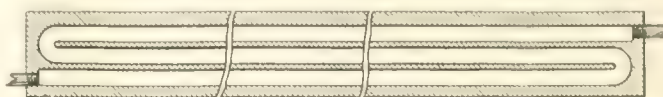


FIG. 2.

per and lower platens are fitted with steam entrances and drips and are also equipped with a patent clamping device by which the whole mold is fastened at one motion in one minute. This mold-vulcanizer is already in use in a number of rubber factories and is giving excellent satisfaction. United States patent No. 717,480. [The Williams Foundry and Machine Co., Akron, Ohio.]

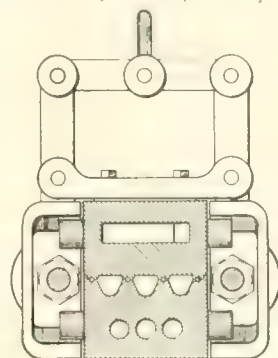


FIG. 3.

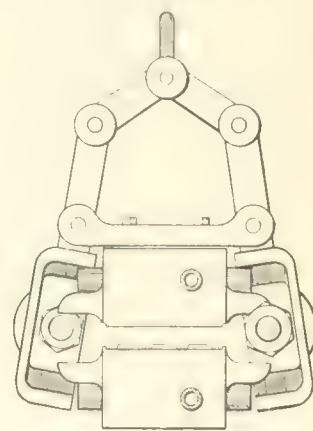


FIG. 4.

Referring to the above illustrations, Fig. 1 relates to the upper platen described in the text; Fig. 2 to the lower platen; Fig. 3 is a view of the mold-vulcanizer when closed, and Fig. 4 the same when open.

#### "TYRES" IN AN ENCYCLOPEDIA.

THE latest edition of the "Encyclopædia Britannica," the world's greatest reference work, contains an article on "Tyres," the spelling of which word shows that while the scope of the work has been broadened by the addition of Americans to the editorial staff, the British end still predominates. The British quality of the work is further evidenced by the fact that "tyres" are referred to and described as consisting of air tubes and detachable covers, the details being illustrated fully, while no illustration appears of the single tube type, of which so many millions have been made in the United States—the country in which more copies of the "Britannica" are sold than in any other. America is recognized in this article, however, through the inclusion of a cut of the Goodyear detachable double tube tire, with a description of its characteristics—though one is not told where this may be bought.



FIG. 1.

## "THE GREAT PARA RUBBER PLANTATION CO."

THE two pictures on this page are accurate reproductions from recent advertisements of the Para Rubber Plantation Co. These and other pictures used in the same connection purport to illustrate details of the work of this "great trading and rubber gathering company," "on its mammoth properties in Venezuela," and on which "six thousand men are working." Its "trading posts make average profit of 100 per cent.," and mention is made of "steamships transporting its supplies to and from station to station."

This is not the first time, by the way, that the two pictures referred to have appeared in the reading pages of THE INDIA RUBBER WORLD. The picture on the left, labeled "Packing Rubber for Shipment," and which we find in an advertisement of the Para Rubber Plantation Co. in *Leslie's Weekly* of June 25, 1903, was copied by that company from a half page view in THE INDIA RUBBER WORLD of March 1, 1902 [page 17] of the warehouse of the long established rubber exporting firm of Witt & Co., at Manáos, Brazil, through which, in a single year, more than 7,000,000 pounds of rubber have been shipped. Our picture appeared before the Para Rubber Plantation Co. had an existence.

The picture on the right, we find in an advertisement of the Para Rubber Plantation Co. in *Leslie's Weekly* of July 23, 1903, under the heading, in large type "THIS IS A TRADING POST," and in smaller type, "on the Casiquiare river — — —. The entire length of this river is owned in fee, without bonds, by the great Para Rubber Plantation Company." But this picture was copied from a half page view in THE INDIA RUBBER WORLD of January 1, 1902 (page 117), described as "Ramate de Males—A Rubber Station on the River Javary"—a point not to be reached from the Casiquiare river without 2000 miles or more travel.

There are many other things in the advertisements of the Para Rubber Plantation Co. that have not been copied from THE INDIA RUBBER WORLD, and these we are prepared to admit to be original—indeed, to be pure invention on the part of the company's promoters, with no relation to actual conditions on the Casiquiare. The advertisements have not failed to attract attention in Venezuela, relating as they do to matters not before known in that country. The *Venezuelan Herald*, of Caracas, on February 15, 1903, said of a prospectus of the Para Rubber Plantation Co:

The article is interesting, for it informs us, a fact of which all the world was in ignorance, that *cacao is to be found in the valley of the*

*Orinoco*. If all the figures furnished by the Antwerp promoters of this company are as exact as this statement, we pity the future shareholders.

The same journal of July 31, 1903, spoke of the legations and foreign consulates at Caracas being "inundated with demands for information about the Para Rubber Co.," which enterprise was "totally unknown" there.

It may be added that THE INDIA RUBBER WORLD has received many similar requests for information since our issue of November 1, 1902, in which the details of the company's prospectus were set forth at considerable length. The Para Rubber Plantation Co. was incorporated August 11, 1902, under the laws of Arizona, with \$5,000,000 capital authorized, and its offices are at No. 52 Broadway, New York. We are unable to learn that the company has any business elsewhere.

An advertisement in one of the monthly magazines describes the trip of an unnamed visitor to the Casiquiare. Leaving Pará he reached Manáos by steamer in two days [other people require five or six], tying up at "the wharf used by the Para company." Then "taking one of the steamers of the Para Rubber Plantation Co. at 9.30 P.M.," he arrived almost at once, and without noticing the rapids in the Negro which impede other travelers, "at San Carlos, the head trading station of the Para Rubber Plantation Co., a town mainly controlled by this great company, situated at the mouth of the rio Casiquiare, where it empties into the rio Negro." Here he was "royally entertained" overnight by the general manager for the company [name given]. The next day he steamed up the Casiquiare, reaching "Station No. 3," at "Danano creek," about noon, when, after "a lunch of tinned delicacies and native wine," he took to the woods and watched the natives gather rubber by methods different from any ever before described in print, and at a cost to the company "figured at about 35 cents per pound, packed for shipment."

This advertisement was printed in January, 1903; in the October preceding, the manager named in it visited THE INDIA RUBBER WORLD office, not then having gone to his post to begin the initial work of development. At that time the Casiquiare region was reported to be a virgin forest; everything remained to be done. According to later advertisements, this new \$5,000,000 company paid a 6 per cent. dividend in March, and now a second dividend is announced, payable September 20. Very rapid development, for a new country.

According to all the maps, the Casiquiare has two outlets to the Atlantic ocean—one through the Orinoco, and one through

THIS IS A TRADING POST on the Casiquiare River.

—Advertisement.



PACKING RUBBER FOR SHIPMENT.

View of Witt & Co.'s warehouse in Manáos, appropriated for advertisements of the Para Rubber Plantation Co.



View of a trading station on the river, appropriated for advertisements of the Para Rubber Plantation Co.



the Negro to the Amazon and thence to the seaboard. In a recent book ["Down the Orinoco in a Canoe." London: 1902] Pérez Triana, son of a former president of Colombia, describes the difficult feat of shooting the rapids on this river at Mai-pures and Atures, ten days being consumed in a progress of fifty miles. But not to mention the rapids, the Orinoco has been closed to navigation for more than a year by the troubles in Venezuela.

Navigation on the Negro is not much better. Our correspondent at Manáos writes that the river is really navigable only to Santa Isabel, where the rapids begin; "the Casiquiare is a good 400 miles from Santa Isabel," he adds; "then how do these people expect to work their *seringales* (rubber camps)?" Lieutenant Herndon, of the United States navy, in 1851, reported that several weeks were required to go from Manáos to San Carlos, but that was before the days of steam. The Baron de Marajó, of Pará, in his book ["As Regiões Amazonicas." Lisbon: 1895] finds 31 cataracts on the Negro worthy of mention, some of them being described as dangerous.

So much for shipping facilities.

Our Manáos correspondent wrote on June 13 last: "We still await confirmation of the Casiquiare syndicate's prospectus. So far nothing is known here as to work in that direction. Mr. ——— [the manager advertised as entertaining "royally" on the company's estates] was here some months lounging around the saloons, but did not go up river, and has disappeared Pará-wards."

A representative of THE INDIA RUBBER WORLD who visited the offices of the Para Rubber Plantation Co. in New York, on August 20, was politely received by a young gentleman who was alone in charge, all the officials being out of the city—some of them out of the country. They alone were prepared to give any information regarding results achieved. He knew that rubber had been gathered and shipped and sold in New York at a handsome profit, besides the profit on the turnover of merchandise shipped to the Casiquiare. But how much rubber, and at what price, or to whom consigned—one must wait for the return of the secretary. None of these things were known in the office. He had heard of "ninety hundred tons of fine Pará" awaiting shipment from the company's stations. Some of it was expected soon by way of the Orinoco. When reminded that 9000 tons was several times as much as the world's present visible supply of Pará rubber, and that putting such an amount on the market at once would cause a tumble in prices, he said it might be "ninety hundred pounds"; he was n't certain. The company gathers only "fine Pará"; the young man was not aware that there was any "coarse Pará." [Pronounced *Pa'ray* at No. 52 Broadway.]

Was he certain that their manager had actually reached the Casiquiare? Oh yes.

How could one be assured on that point? By writing to the Consul. The manager's mail had been addressed in his care.

What Consul? The one at Manáos.

But getting his mail at Manáos would not prove that the gentleman had gone upstream? (No answer.)

The whole Venezuelan rubber crop received at Manáos for the year arrived in a lump late in June, being nearly 80 tons, as against 70 tons last year. How much of the increase was contributed by the Para Rubber Plantation Co.? The young man could not say.

The gentleman above referred to carefully ignored all requests for his name, but his visitor thought that he was addressed by a stenographer as "Mr. Merrill." This name, by the way, may be looked for further along.

Of late the advertising of this company has been done through the medium of the "Standard Securities Co.," the

name of which is painted on the door of an adjoining room. Here is a specimen letter from the latter concern:

NEW YORK, N. Y., August 19, 1903.

DEAR SIR: Herewith we hand you fac-simile copy of announcement of the second semi annual dividend of the Para Rubber Plantation Company, which will no doubt please you.

We would respectfully request that your order for stock be in our hands no later than September 15th, in order that we may equably apportion the small block remaining in our hands for sale.

In our various letters we have predicted \$1.00 per pound for Pará rubber by January 1, 1904, and we now call your attention to the fact that it is selling for \$1.00 per pound to day in New York, with predictions for \$1.25 per pound before long; costs 35 cents laid down in New York. Increasing dividends are assured. Yours very truly,

JACK MERRILL,

Secretary of the selling company,  
THE STANDARD SECURITIES COMPANY.

The announcement of the forthcoming dividend also appears here, in reduced *fac simile*. Note the expression, "In answer to your inquiry," a dividend has been declared, etc. The



New York, August 11, 1903

Standard Securities Company,

52 Broadway, City.

Gentlemen:-

In answer to your inquiry, I wish to state that at a Meeting of the Directors of the Para Rubber Plantation Company held this day, our second semi-annual dividend of six per cent (6%) was declared payable to stockholders of record September 16th.

Yours truly,

Allen T. Haight  
Vice-President.

P.S. Checks will be mailed September 20th.

"Standard Securities Co." had been advertising since June a 6 per cent. dividend for August. Then why "inquire" about it in August? Perhaps because it was so easy to "inquire," it being necessary to only open the door to the next room and walk in.

As shares are still offered for sale, presumably the 12 per cent. in dividends to date do not apply to the whole \$5,000,000 of capital. Say it applies to \$1,000,000—that would require \$120,000. No rubber man will believe that the Para Rubber Plantation Co. has netted more than 25 cents per pound on its product, which rate would call for the sale to date of 480,000 pounds. Does any rubber man believe that so much has been sold by the company?

By the way, an advertisement which appeared on July 30 said: "300,000 pounds of pure and fine Pará have been made on the lower end of the property of the Para Rubber Plantation Co. this season so far." This would make 50 pounds each for the 6000 men advertised as at work.

It may be of interest to some readers to know that an in-

quiry made of the New York Times as to the source of the crude rubber imported into the United States, and who are careful to keep informed in regard to the rubber movement throughout the world, brought out the statement in every case that they had never heard of any rubber being shipped by the Para Rubber Plantation Co.

THE INDIA RUBBER WORLD has devoted space freely to the operations of other rubber exploitation companies, and will welcome for publication any evidence that the Para Rubber Plantation Co. has marketed one ton of rubber, or that it has equipped one trading post, or that it is represented by a responsible agent anywhere near the Orinoco.

#### "DOCUMENTARY"

EXTRACT from a circular entitled "Documentary Proofs," distributed by the Para Rubber Plantation Co. in July

"Elaborate plans have been made by which the work of the company is now carried on, on a truly magnificent scale in every detail. The company, without doubt, now owns the richest rubber producing country in the world, the country whose product commands the highest price. A line of steamships has been established which ply on the Orinoco and Casiquiare rivers, between the stations established all along the line, making the trip from the property to New York in sixteen days."

LETTER from an important shipping company, with interests on the Orinoco:

THE ORINOCO STEAMSHIP COMPANY  
PARA RUBBER PLANTATION CO.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In reply to your letter of the 5th inst., we beg to say that according to our last advices, all steam communication between the upper and lower Orinoco has been suspended, and traffic between Ciudad Bolivar and the seaboard has not yet been resumed since the capture of that port by the government forces. Yours very truly,

NO NEWS IN CHICAGO.

THE published list of officers of the Para Rubber Plantation Co. is headed "John Cudahy, president." In the list of directors he is described as "John Cudahy, packer, Chicago." This gentleman is connected with the Cudahy Packing Co., engaged on so important a scale in the meat trade in the West. Another Chicago man is treasurer, and two more are named as directors. It has not been possible, however, to derive any information from that quarter. A telegram from the Chicago correspondent of THE INDIA RUBBER WORLD on August 26 stated that Mr. Cudahy was ill, and could not be seen, and that the other Chicago officers were away on vacations.

SPONGE waste, imported into the United States from Nassau, consists of small fragments of sponges, which have been clipped from the ragged edges of merchantable sponges, in the process of preparing them for the market, and are raked up and put into bales usually of 500 pounds each. It is chiefly employed in the manufacture of paper known as asbestos sponge paper, used for insulating purposes and composed of about 80 per cent. of asbestos and 20 per cent. of sponge waste. It is also put up in the form as asbestos sponge filling and used for lining refrigerators, for deadening walls, and for lining horse collars and saddles. It is imported by manufacturers of asbestos goods, who have claimed it to be entitled to entry free of duty, but in a recent decision on a protest of the H. W. Johns-Manville Co. (New York), this waste is held to be dutiable as sponges, at 20 per cent. *ad valorem*.

## THE CUP OF MELTED

THIS being a progressive world, it is natural that the advance of time should constantly bring about new discoveries, including facts explaining the discovery of the vulcanization of rubber. In this connection the able Waterbury (Connecticut) *Republican* is the first authority, to our knowledge, to introduce the incident of the cup of melted rubber. Its statement of how Goodyear was surprised is given herewith:

One day, while standing idly by a stove upon which a cup of melted rubber stood, he threw in a handful of melted sulphur and was surprised to find that the combination solidified. - - From this accidental discovery we derive the thousand and one articles that vulcanization of rubber makes possible.

#### THE TROUBLE THAT WAS CAUSED BY THE TOCIN.

IMPORTERS and manufacturers of rubber in New York and Boston are not worrying about the tocsin sounded in England and Belgium over the discovery of an African rubber plant that, it is alleged, is going to revolutionize the market, and break up the trust that has for so many years controlled the rubber supply from the Orinoco.—*New York Times*, June 21, 1913.

#### ROOT RUBBER AND POLICE IN BRAZIL.

IN their greed for gain the first native gatherers destroyed thousands of trees by extracting the sap, even from the roots. Root rubber, as it is called, brings a low price compared with other rubber; still it is remarkable, and the Indians were out for all that they could get. Under proper supervision the root rubber trade has been stopped and the trees saved. The policing of the rubber district is almost as severe as the protection of the diamond mines in South Africa. The root rubber iniquity almost devastated the Brazilian forests near the waterways as well as the Amazon and the lower Negro.—*New York Times*, June 21, 1913.

#### WHERE CRUDE RUBBER IS MADE.

ALTHOUGH Pittsburgh is one of the largest consumers of rubber, extensive manufacturers of the crude product are located principally in New England and New Jersey, millions of dollars being invested in the plants.—*Pittsburg Leader*, April 12, 1913.

#### DOES RUBBER GROW IN MAINE?

THERE are innumerable sorts of gum trees and so-called rubber plants and trees which exude a milky, sticky substance resembling genuine rubber milk. Even the milk weed of our roadside and the chicla or chewing gum of the Maine woods may be called rubber plants, of which there are 53 botanical varieties of the general species or family.—*Pittsburg Leader*, April 12, 1913.

#### INDIA RUBBER IN THE COUNTRY EDITOR.

IN looking over one issue of an exchange we find that the editor hopes, is glad, is pained, is pleased, is delighted, has regret, and has heartfelt sorrow. No one could stand such a combination but the country editor, who generally has an elastic conscience and an India-rubber stomach.—*Centralia (Kansas) Journal*.

#### THE TEETH OF A LOST WIFE.

The face of a lost wife  
Was all her own fault;  
She first turned to "rubber,"  
And then turned to salt.

—*New York American and Journal*.

#### POLITENESS AND RUBBER TIRES.

POLITENESS is like a rubber tire; it may not be very solid, but it eases the jolts wonderfully.—*Pittsburg Leader*, September 1, 1913.



## FINANCES OF A RUBBER STATE.

THE details of the new fiscal arrangements of the state of Amazonas (Brazil) can be stated more fully than has been done hitherto in THE INDIA RUBBER WORLD, since the appearance of the official report of Dr. Porfirio Nogueira, secretary of state of Amazonas, who visited New York some time ago for the purpose of placing the new state loan. A total issue was authorized of £1,500,000 [= \$7,299,750], 5 per cent. thirty year gold bonds, one half to be devoted to the purchase of public utilities in the city of Manáos, and the remainder to refunding the outstanding state bonds and cancelling the floating debt. Holders in New York of ten year Amazonas bonds payable in currency, amounting to 382,500 milreis, exchanged them for £11,475 in gold bonds, indicating that the basis of exchange was the valuation of the former at 60 per cent., which would effect a reduction of 40 per cent. in the obligations of the state.

Dr. Nogueira placed in New York bonds to the extent of £498,560, at 85 per cent., yielding \$2,055,890.78, including the gain on the sale of a few bonds expired interest due January 1 last. The proceeds were applied to the purchase of the Manáos railroad (including a contract for supplying the city with water) and the electric lighting plant—enterprises promoted originally by New York interests with which Mr. Charles R. Flint is identified. Bond proceeds in New York were applied as follows:

Manáos city railway .....	\$1,724,873.70
Arrears of subsidy due same .....	178,955.30
Electric lighting plant .....	82,450.00
Arrears of subsidy due same .....	61,000.17
Surplus remaining .....	7,455.61
Total .....	\$2,055,890.78

The remainder of the bond issue was deposited in the state treasury at Manáos for use in refunding operations, and to provide for further public improvements. Besides scaling the state debt 40 per cent., Dr. Nogueira points out that the state is a gainer by becoming owner of the public utilities, without the payment of a cent of cash, since the yearly charges will be less than the subsidies paid hitherto, while the revenue from the railway and electric lighting will provide an ample sinking fund for the bonds. One-thirtieth of the amount of each bond is to be retired annually through the medium of a coupon maturing on July 1, and the whole issue is secured by the hypothecation of the export duties (on rubber, mainly) and certain other revenues of this state.

The Manáos Railway Co., in 1899, succeeded the old Viacão Suburbanão Urbana Manauense, founded by Frank Hebblethwaite, an Englishman. In the year named the steam line was superseded by the overhead trolley system. The office of the company is at No. 25 Broad street, New York—the address of Flint & Co.—and at a recent date the directors were: Anthony N. Brady, Charles R. Flint, F. H. Hebblethwaite, Edmund C. Converse, Frederick Stewart, John W. Scott, W. D. Walker, W. W. Ladd, Jr., and A. J. Moxham. Fifteen miles of single track narrow gage road are operated, on five different routes, employing usually about twenty cars. The fare is 250 to 1000 reis—6 to 24 cents—according to distance. The plant is reported to be in good condition. The capital of the company, \$1,400,000, was transferred on the basis of 94¾ per cent., and the mortgage bonds of the company, nominally \$687,000, were valued at \$295,165.70.

Dr. Nogueira presents figures to show how the state will benefit through the cutting off of the subsidies paid to the railway company, while taking charge of its earnings, which are here

converted to terms of United States money on the basis of 12 pence to the milreis, as follows:

<i>Annual Statement</i>		
Payment for water .....	\$ 84,079.60	
Railway subsidy .....	45,950.40	\$129,130.00
<i>Annual Statement</i>		
Passenger receipts .....	\$155,853.05	
Freight receipts .....	11,742.00	175,595.05
Aggregating .....		\$304,725.65
<i>Disbursement</i>		
Staff and employes .....	\$97,247.27	
Coal .....	48,847.50	
Renewals .....	17,560.00	163,654.77
Net revenue .....		\$141,070.88

The point is overlooked, however, that the "payments" above referred to were largely only promises to pay, and that the railway company has finally obtained its subsidy in the shape of thirty year bonds.

In 1895 a concession for an electric plant in Manáos was obtained by Heliodoro Jaramillo, who proceeded to develop the same. Three years later the contract was transferred to Redman & Brown—a New York firm composed of John C. Redman and George F. Brown, with Charles R. Flint interested. The company was hampered by inability to collect promptly the payments due from the state, and finally the management was assumed by the local authorities. There are 1600 street lights, of the arc system, and 700 or 800 incandescent lights for private users. The company had also the privilege of selling power. Dr. Nogueira gives its sources of yearly income thus:

Lighting of the streets .....	\$78,893.10
Lighting of public offices .....	4,877.15
From private customers .....	14,599.50
Total .....	\$98,369.75

The maintenance of this service by the authorities is figured at \$73,873.47 per year, which would leave \$59,273.97 for the state to pay after deducting the receipts from private customers.

The *Brazilian Review* understands that the holders of the state's obligations were not obliged to surrender them for the new bonds, and that "the great majority of the holders were not only glad, but anxious to exchange."

## "RUBBER" FROM GREASEWOOD AGAIN.

IN regard to recent newspaper reports that the rubber industry was about to be revolutionized on account of a "substitute" obtained by "experiments being secretly carried on" with a product of a shrub known in the west as "greasewood," in the factory of The B. F. Goodrich Co. (Akron, Ohio), Mr. B. G. Work, vice president of that company, informs THE INDIA RUBBER WORLD that he never heard of the matter until he saw it in the newspapers. In other words, "the story was made out of whole cloth." One of our correspondents intimates that the writer who first gave publicity to the story was the victim of a jocular young rubber man in Denver. At the same time THE INDIA RUBBER WORLD has a letter from C. M. Fueller, a mining engineer at Denver, Colorado, saying:

We have made a few very crude experiments with the bark of the plant you mention. The bark of the roots of the plants gives a rubber like gum, soluble in all solvents for rubber. The gum increases in elasticity when heated up to a certain point, and seems to possess the quality of vulcanizing. We expect to experiment further with this plant, as our time and business will permit. The plant grows wild in large quantities and we hope eventually to work out a commercial product.

"Greasewood" is one of various low shrubs prevalent in saline localities in the dry valleys of the western United States.

## INDIA-RUBBER GOODS IN COMMERCE

## EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of India-rubber and Gutta-percha, for the month of June, 1903, and for five fiscal years, ending June 30:

MONTHS.	Footwear, Packaging, and House	Boots and Shoes.	All other	
June, 1903.....	\$ 66,740	\$ 40,509	\$ 223,000	\$ 310,249
July-May.....	753,236	1,006,982	2,075,925	3,836,143
Total.....	\$819,975	\$1,056,491	\$2,299,875	\$4,176,341
Total, 1901-02...	634,146	1,046,315	1,781,111	3,462,402
Total, 1900-01...	565,720	724,015	1,727,527	3,017,268
Total, 1899-00...	541,830	429,746	1,405,212	2,367,788
Total, 1898-99...	(a)	260,886	1,541,111	1,802,997

(a) Included in "All Other" prior to July 1, 1902.

The number of pairs of rubber footwear exported during the past nine fiscal years has increased as follows:

1894-95...	383,723	1897-98...	391,832	1900-01...	1,469,100
1895-96...	350,713	1898-99...	486,586	1901-02...	2,594,688
1896-97...	306,026	1899-00...	762,016	1902-03...	2,307,401

The average export price during the past fiscal year was 5 cents per pair higher than in 1901-02.

## RUBBER SHIPMENTS TO NONCONTIGUOUS TERRITORIES.

OFFICIAL statement of values, for the twelve months ending June 30, 1903, of manufactures of India-rubber:

Alaska .....	\$135,072
Hawaiian Islands .....	61,315
Porto Rico.....	19,666
Philippines.....	58,861
Total.....	\$275,764

## IMPORTS INTO THE UNITED STATES.

India-rubber goods .....	\$478,063	\$449,756	\$665,972
Gutta-percha goods.....	163,337	127,780	225,145
Total.....	\$642,000	\$577,536	\$891,170
Re-exports.....	16,888	13,173	8,656
Net Imports.....	\$625,112	\$564,363	\$882,514

## BELGIUM (SPECIAL COMMERCE).

OFFICIAL values (in francs) of India-rubber goods, for the first six months of 1903 and two years preceding:

IMPORTS.		EXPORTS.	
From Germany .....	312,552	To France.....	320,100
" Great Britain.....	321,168	" Great Britain.....	112,228
" France .....	329,446	" Holland.....	97,432
" United States..	18,591	" Germany .....	21,149
" Other countries..	16,330	" Other countries..	88,501
Total.....	1,058,087	Total.....	648,469
Six months, 1902..	858,012	Six months, 1902..	681,148
Six months, 1901..	702,305	Six months, 1901..	633,475

## ITALY.

OFFICIAL values of imports and exports of India-rubber and Gutta-percha goods, for the months of January-June, inclusive, in lire [1 lira=1 franc=19.3 cents]:

	1902.	1901.
Imports .....	2,061,240	2,177,170
Exports.....	1,514,130	2,027,610

## GERMANY.

OFFICIAL statistics of values (in marks) of imports and exports of India-rubber goods for the first six months of three years:

	1901.	1900.	1899.
Imports.....	6,740,000	6,410,000	7,164,000
Exports .....	15,570,000	16,315,000	19,574,000

Returns of exports do not embrace tires, which are exported

as "parts" of bicycles or automobiles, or rubber toys, which are included under "toys of all sorts." In all these branches exports have been unusually large this year.

## COMPARATIVE STATEMENT—SIX MONTHS.

	VALUES IN FRANCS FOR THE SIX MONTHS ENDING JUNE 30, 1903.	VALUES IN FRANCS FOR THE SIX MONTHS ENDING JUNE 30, 1902.
Germany.....	\$1,706,332	\$1,732,372
Great Britain.....	[1,906,375]	3,263,757
United States.....	502,044	1,915,541
France (special commerce).....	1,186,371	903,047
Austria-Hungary.....	732,686	975,228
Italy.....	177,523	391,329
Belgium (special commerce).....	214,211	125,155
Total.....	\$6,718,542	\$12,306,449

The above table indicates a net export during six months of the value of \$5,587,907 to non-manufacturing countries. This sum doubtless would be considerably increased if there could be added to it the Russian exports to countries not manufacturing rubber goods.

## THE ACRE DISPUTE SETTLED.

THE New York *Herald* publishes a despatch from Rio de Janeiro, dated August 12, to the effect that a settlement of the Acre territory dispute has been reached, and Brazil's sovereignty over the greater part of the territory has been acknowledged by Bolivia, who has been indemnified for her military expenditures. A harbor will be built on the river Madeira and a railway constructed from the Mamoré river to the Madeira. Some time ago, INDIA RUBBER WORLD readers will remember, the government of Bolivia granted a concession of the Acre district to an Anglo-American syndicate—The Bolivian Co.—which act met with active opposition from Brazil, on the ground that the district belonged to the latter country. The syndicate referred to, in view of the disputed ownership of the country, accepted an indemnity from Brazil and went into liquidation. [For a map of the district and a summary of the disputed questions, see THE INDIA RUBBER WORLD, April 1, 1903—page 221.]

The region drained by the Acre river—which connects with the Amazon—is commonly regarded as the richest rubber district in the world, and the settlement of the question of its ownership, and the restoration of order there, may be expected to be followed by renewed activity in the development of the rubber trade there. As for the proposed railway, the object of which will be to assist transportation around the falls in the Madeira—another affluent of the Amazon—no other undertaking could contribute so much to the development of the Bolivia, and especially of the export of rubber from the regions in that country drained by the Beni, Madre de Dios, and other important streams which are without an outlet except through the Madeira.

IN view of the complaints of the German postal authorities of the practice of mailing printed matter in large unsealed envelopes, with wide open flaps into which other mail matter is apt to get caught, causing confusion in delivery, the *Gummi-Zeitung* recommends the use of rubber bands, with address cards attached, for packages of the character described. Business papers, samples of merchandise, and the like, first wrapped with a thin paper, would be held in shape by such special rubber band, while the address could be placed upon the accompanying card or tag. The same device should prove no less practicable in other countries.



## RUBBER GOODS FOR SOUTH AMERICA.

VILMORIN-ANDRIEUX ET CIE., 4, Quai de la Mé  
Paris—established for more than a century—send us a priced  
list of tropical plants, including Caoutchouc of the following  
and species of *Landolphia*. Both seeds and plants are

COLONEL LOUIS H. AYMÉ, of Chicago, has been appointed United States consul at Pará, Brazil, to succeed Kavanaugh K. Kenneday, who has held the position since January, 1898. Colonel Aymé goes to Pará from the consulate at Guadeloupe, which he has held also since January, 1898. This change is in the nature of a promotion for Colonel Aymé. The salary attached to the Pará consulate is \$3000 a year, in addition to which there were fees during the fiscal year 1901-02 amounting to \$1681.

## RECENT RUBBER PATENTS.

## THE UNITED STATES PATENT RECORD.

ISSUED JULY 7, 1903.

- N**O. 732,728. Rubber roll [in rings or sections composed of sheets of textile material, alternated with sheets of rubber]. Bennett Forsyth, Boston.
- 732,740. Exercising apparatus [including a rubber pad]. Hans M. Hansen, Quincy, Massachusetts.
- 732,855. Pessary. Edgar M. Hewish, Philadelphia.
- 733,014. Bicycle repair plug. David H. Co., Trenton, New Jersey.
- 733,018. Showering device for attachment to bath brushes. DeVilbiss, Toledo, Ohio.
- 733,026. Inhaler. Sydney O. Goldan, assignor to Frederick Tagliavia-Tanini, both of New York city.
- 733,027. Inhaler. *Same*.
- 733,068. Pessary. William W. Mitchell, Anderson, Indiana.
- 733,071. Weather strip. John M. McGill, Anderson, Indiana.
- 733,152. Empyema drainage device. Murdoch Chisholm, Halifax, Canada.
- 733,158. Vehicle tire [of solid rubber with novel means for retaining the same]. Jules A. Collet, Brooklyn, New York.
- 733,198. Pneumatic tire [comprising an outer casing and a series of independent inflatable sections arranged therein]. Robert A. Harris, Tucson, Arizona.
- 733,216. Golf ball. Eleazer Kempshall, Boston.
- 733,303. Swimming glove [with webs between the fingers]. Ernest G. Vans Agnew, Kissimmee, Florida.

*Trade Marks.*

- 40,746. Elastic rubber cement. Charles O. Tingley, Rahway, New Jersey. *Essential feature*.—The words "Stop Cock" accompanied by the letters "C. O. T." Used since November 1, 1902.
- 40,747. Rubber vehicle tires. The Springfield Rubber Tire Co., New Haven, Connecticut. *Essential feature*.—The capital letter "S" enclosed in a wreath. Used since January 2, 1903.

ISSUED JULY 14, 1903.

- 733,440. Pneumatic tire [with special thick tread]. Aaron Vreeland, Singac, New Jersey.
- 733,487. Washer [for filter presses]. Eduart H. Crebs, Oxnard, Cal.
- 733,540. Vehicle tire [solid with groove to engage inwardly extending flanges of the rim]. John T. Carter, Racetrack, Montana, administrator of John W. Carter, assignor of one half to Charles A. Warren, Chicago.
- 733,356. Hoof pad. William J. Kent, Brooklyn, New York, assignor to Revere Rubber Co.

ISSUED JULY 21, 1903.

- 734,024. Horseshoe [with rubber tread]. John E. Watts, Topeka, Kansas.
- 734,108. Plug for pneumatic tires. Charles R. Tingley, Rahway, New Jersey.
- 734,111. Cushioned horseshoe. Calvin T. Adams, New York city.
- 734,116. Fountain pen. John Blair, Brooklyn, New York.
- 734,118. Life raft [embracing an inflatable buoy]. Horace S. Carley, Hyde Park, Massachusetts, assignor to Carley Life Float Co., Philadelphia.
- 734,213. Hot water bag. Joshua Barnes, Smithtown Branch, New York.
- 734,256. Golf ball [stuffed with hair]. Arthur W. P. Cramer, New York city.
- 734,296. Tire [pneumatic]. Charles Bürger, Chêne Bougeries, Switzerland.
- 734,301. Hoof pad. John Campbell, New York city.
- 734,319. Painting machine. John Grahn, Madison, Wisconsin.
- 734,339. Manufacture of golf balls [the core composed of alternate layers of sheet India-rubber and sheet gutta percha]. Charles T. Kingzett, Chislehurst, England.
- 734,374. Horseshoe [with rubber pad]. John H. Stair, Akron, Ohio.
- 734,377. Hose coupling. Frederick Toerge, Wilksburg, Pennsylvania.
- 734,414. Hose coupling. August Freeman, Newhall, Iowa.
- 734,419. Insulated joint [for rails]. John D. Keiley, New York city, assignor to the Weber Railway Joint Manufacturing Co.

- 734,434. Pneumatic tire [with impervious hard previously-vulcanized composition strip located in tread]. W. F. Schächt, Goshen, Ind.
- 734,492. Golf ball. Charles T. Kingzett, Chislehurst, England.
- 734,463. Golf ball. Charles T. Kingzett, Chislehurst, England.

ISSUED JULY 28, 1903.

- 734,498. Dilating bougie. Frederick R. Bachler, Oxnard, California.
- 734,529. Elastic vehicle tire [having sectional locking wires embedded in a solid tire of rubber]. Henry G. Fiske, assignor to Electric Vehicle Co., both of New York city.
- 734,563. Fountain pen. Frank M. Kegrize, Philadelphia.
- 734,578. Bathing cap. Henry Lemmon, Hasbrouck Heights, New Jersey, assignor to Mattson Rubber Co.
- 734,617. Flue cleaner. Reginald S. Ruggles and Constance M. Ruggles, Ravenswood, Illinois.
- 734,888. Process of making playing balls. Charles T. Kingzett, Chislehurst, England.
- 734,912. Pneumatic tire [detachable]. Arthur H. Marks, Akron, Ohio, assignor to the Diamond Rubber Co.
- 734,913. Pneumatic tire. *Same*.
- 734,914. Pneumatic tire. *Same*.
- 734,915. Pneumatic tire. *Same*.
- 734,916. Pneumatic tire and rim. Arthur H. Marks, Akron, Ohio.
- 734,926. Artificial foot. William M. Mumberg, Chicago.
- 735,004. Fountain pen. David L. Wardroper, Atlanta, Georgia.

*Trade Marks.*

- 40,816. Sheet rubber packing and gaskets. The Republic Rubber Co., Youngstown, Ohio. *Essential feature*.—The words "Search Light" surrounded by a line of dots, the words "Search" and "Light" being slightly separated, and each word surrounded by an oval line of dots, the dotted oval outline of each word joining the other end to end. Used since March 10, 1903.

[NOTE. Printed copies of patents and of United States applications for patents are obtained from THE INDIA RUBBER WORLD, 115 N. 2ND ST., PHILADELPHIA, PA.]

## THE BRITISH PATENT RECORD.

[\* Denotes Applications from the United States.]

APPLICATIONS—1903.

- 12,534. J. H. M. Gillies, Glasgow. Golf ball. June 3.
- 12,634. W. F. Parker, London. Repair appliance for pneumatic tires. June 4.
- 12,663. A. Batchford, Guernsey. Water hose and steam union. June 5.
- 12,670. A. Everett, Folkingham. Puncture preventing shield for pneumatic tires. June 5.
- 12,693. W. H. Dawson and J. Scott, London. Pneumatic tire for motor cars. June 5.
- 12,694. H. G. Rose, Birmingham. Golf ball and method of manufacturing. June 5.
- \*12,717. K. V. Painter, London. Golf ball. June 5.
- 12,756. M. Reynolds, London. Pneumatic tire. June 6.
- 12,847. L. Johnstone, London. Method of manufacture of pneumatic tires and apparatus therefor. June 8.
- 13,037. H. Sandwith, London. Elastic tire. June 10.
- 13,039. G. M. Wolmershausen, London. Puncture proof tires. June 10.
- 13,277. R. Raffety, London. Golf ball. June 13.
- 13,286. T. Meacock and O. J. Meacock, London. Motor and cycle tire. June 13.
- 13,306. The Velvill Co., Limited, and J. S. Howkins, London. Manufacture of India-rubber substitute. June 13.
- 13,303. R. Taafe, Liverpool. Pneumatic tire. June 13.
- 13,325. W. L. Jackson, Glasgow. Non-skidding device for pneumatic tires. June 15.
- 13,368. C. T. Thompson, London. Golf ball. June 15.
- 13,393. G. R. G. Rowe, London. Cradle solid tire wheel. June 16.
- 13,396. J. A. Mays, London. Pneumatic tire. June 16.
- 13,431. C. H. Gray, London. Improvement in the manufacture of India-rubber and Gutta percha goods. June 16.
- 13,484. F. Rogers, London. Attachment for pneumatic tires. June 16.
- 13,594. Jane Rowley, Glasgow. Heel pad for boots. June 18.
- 13,601. J. W. Pattey, Manchester. Heel and sole pads for boots. June 18.



- 13,722. W. H. Lane, Berlin. Rapid tire fixer. June 18.  
 13,731. S. Fox and R. E. P. Craven, London. Resilient tired wheel. June 18.  
 13,729. C. E. Foster and Dental Manufacturing Co., Limited, London. Dental rubber. June 19.  
 13,741. J. A. F. Steinhoff, London. Pneumatic tire. June 19.  
 13,748. C. A. F. Greggson, Birmingham. Golf ball. June 20.  
 13,765. Susan Reed and A. J. Reed, Manchester. Rubber tip for boots and shoes. June 20.  
 13,768. H. Brockas, Coventry. Golf ball. June 20.  
 13,824. E. F. Piers, London. Resilient wheel for vehicles. June 20.  
 13,838. E. Siegenthaler, Dunley villa, Berkshire. Mail jacket for tire covers. June 22.  
 14,027. I. Klein, London. Tire for motors and cycles. June 23.  
 14,029. C. H. Gray and T. Sloper, London. Elastic tire. June 23.  
 14,127. R. Hutchinson, Glasgow. Golf ball. June 25.  
 14,158. J. E. Layton, London. Golf ball. June 25.  
 14,314. G. W. Robertson, London. Medical irrigator or syringe. June 27.  
 14,324. W. R. Gore, Liverpool. Pneumatic tire. June 27.  
 14,347. H. N. Hickley, London. Device for signalling and preventing puncture in tires. June 27.  
 14,463. E. E. Gold, London. Hose coupling. June 29.  
 15,540. J. Taylor, London. Pneumatic tire. June 30.  
 \*14,674. K. V. Painter, London. Golf ball. July 2.  
 14,820. C. W. Jackson, London. Pneumatic tires. July 3.  
 14,864. W. M. Wallace, Glasgow. Protecting band for pneumatic tires. July 4.  
 14,862. G. C. Marks, London. Air compressing pump for inflating tires. (Communicated from France.) July 4.

## PATENTS GRANTED.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JULY 1, 1903.]

- 3,464 (1902). Squeegee [with rubber blades]. F. W. Ingram (trading as J. G. Ingram & Son), and J. C. W. Kofe, London.  
 \*3,468 (1902). Utilizing India-rubber waste. Raymond B. Price, Chicago, Illinois.  
 \*3,619 (1902). Massage apparatus. G. J. Macara, Hartford, Connecticut.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JUNE 1, 1903.]

- 3,855 (1902). Utilizing India-rubber waste. E. Zühl, Berlin.  
 3,875 (1902). Heel protector for boots. T. Bardsley, Hyde, and E. W. W. Slater, Denton.  
 3,988 (1902). Vehicle tire [solid rubber, with protective plates of metal]. F. Musch, London. (Communicated from Russia.)

[ABSTRACTED IN THE OFFICIAL JOURNAL, JUNE 1, 1903.]

- 4,218 (1902). Seaming waterproof garments. J. M. Gougie and J. Nicolson, Glasgow.  
 4,245 (1902). Pneumatic tire [with non-puncturable shield for inner tube]. H. E. Harris, London.  
 4,400 (1902). Fire hose nozzle. A. J. Boulton, London. (L. A. Petit, Paris, France.)  
 \*4,666 (1902). Vehicle tire [composed of core and cover of different kinds of rubber]. C. Hird, Woonsocket, Rhode Island.  
 \*4,722 (1902). Elastic tire [consisting of a rubber tube in which are spherical spaces, each containing an elastic ball]. W. H. Ostrander, and W. T. Smith, Poughkeepsie, New York.  
 4,776 (1902). Vulcanizer for dental work. J. G. Globensky, Montreal, Canada.  
 \*4,753 (1902). Manufacture of rubber boots and shoes [relating to cutting of the vamp quarters and insole in a single piece from a sheet of textile material coated with rubber]. H. J. Doughty, Providence, Rhode Island.  
 \*4,765 (1902). Manufacture of rubber boots and shoes [the machine for molding and vulcanizing rubber footwear to which so much attention has been directed during the past year]. H. J. Doughty, Providence, Rhode Island.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JULY 1, 1903.]

- 4,806 (1902). Pneumatic tire [with a series of separately infiltrated air tubes]. R. Fleischer and M. Reithman, Minden, Germany.  
 4,880 (1902). Inflatable and collapsible form for garment makers. F. Michaelis, Cologne, Germany.  
 5,009 (1902). Pneumatic tire [with two separately inflated air tubes]. M. Ring, London.

5,012 (1902). Pneumatic tire [relates to the manufacture of inner tubes protected by being formed with a layer of helically wound inextensible threads]. M. D. Rucker, London.

5,056 (1902). Pneumatic tire. J. Purdy, Wallasey, Cheshire.

5,286 (1902). Horseshoe pad. F. T. Giles, Bristol.

5,291 (1902). Valve for pneumatic tires. J. Pollock, Blackheath, Kent.

5,308 (1902). Submarine cable. [Dry core insulated conductors are sheathed in India rubber, which is afterwards vulcanized, layers of Gutta-percha being then applied.] F. Tremain, Highgate, Middlesex.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JULY 1, 1903.]

5,600 (1902). Horseshoe pad. J. Leder, Glogau, Prussia.

5,803 (1902). Pneumatic tire [with puncture preventing tread]. B. H. Chameroir, Le Vesinet, France.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JULY 8, 1903.]

\*6,205 (1902). Massage apparatus [including a glove for applying the treatment, carrying a douche nozzle connected by a rubber tube with a water bag]. A. J. Boulton, London. (Personal Hygiene Co., Chicago, Illinois.)

6,343 (1902). Golf ball. W. M. Short, Beckenham, Kent.

6,455 (1902). Coating fabrics. P. M. Matthew, Victoria India Rubber Mills, Edinburgh.

6,465 (1902). Solid rubber tire. F. H. Hyde, Toronto, Canada.

6,877 (1902). Pneumatic tire. J. McCanna, London.

## THE GERMAN PATENT RECORD.

DESIGN PATENTS GRANTED [GERAUCHSMUSTER].

201,932 (Class 3b). Elastic attachment for holding on ladies hats. I. Manasse, Berlin. July 1.

201,970 (Cl. 15b). Rubber stamp with flat type inserted in tin guides having reverted edges. H. Rautmann, Friedenau near Berlin. July 1.

201,912 (Cl. 47f). Rubber ring for removable hose couplings, with separate disc to prevent edges from sticking at high temperatures. C. A. G. Storz, Frankfurt a/M. July 1.

201,779 (Cl. 64a). Hollow stopper with rubber ring packing for bottles containing carbonated beverages. Frau Martha Richter, Hamburg. July 1.

202,587 (Cl. 3b). Clothes bag with elastic lining, held together by rubber bands on inside. H. Walde, Kempton. July 8.

202,417 (Cl. 30g). Milk bottle holder, having a bottom of rubber loops and side binding strings. G. Lamprecht, Seifhennersdorf. July 8.

202,413 (Cl. 71a). Canvas shoe with elastic sides and leather tips. E. Leonhardt, Bischweiler i. E. July 8.

202,192 (Cl. 71b). Rubber heel lift, containing metal plate with points. C. Metzmacher, Leipsiz-Gohlis. July 8.

202,193 (Cl. 83a). Protective case for watches, with openings for ring and face. S. Bernero, Biella. July 8.

202,774 (Cl. 3b). Elastic bands with embroideries. Baus & Foerster, Mermelskirchen. July 15.

203,134 (Cl. 83a). Apron protector of rubber with hooks to attach it to apron. Frau Florentine Mundt, Berlin. July 15.

202,970 (Cl. 30g). Rubber nipple with air slit inside. B. Kohlhaus, Harburg. July 15.

203,054 (Cl. 39a). Plate of cork, consisting of single sheets held together by vulcanized rubber. H. Bortfeldt, Bremen. July 15.

203,248 (Cl. 9). Rubber cuff for painters brushes arranged so that by turning it down the bristles may be shortened. P. Welchin, Düsseldorf. July 15.

## APPLICATIONS.

17,631 (Class 39a). Process for making seamless rubber bags for toy balloons and similar toys. The Rubber Balloon Co. of America, Brooklyn, New York, United States. July 1.

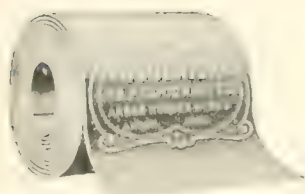
30,851 (Cl. 63e). Elastic tire. Mrs. Mary E. Brooke *nee* Gover, Denver, Colorado, United States. July 1.

16,298 (Cl. 52a). Fitting for sewing machine to join rubber sheets by sewing and pasting at the seams. Rappolt & Söhne, Hamburg, and Paul Arnheim, Hannover. July 1.

17,151 (Cl. 39b). Process for manufacturing substitute for Gutta-percha. M. Frambach, Hamburg. July 8.

17,311 (Cl. 63e). For fastening rubber tires on wheel rims. W. I. Gregory, Springfield, Massachusetts, United States. July 22.

7,432 (Cl. 63e). Insert for rubber tires. P. W. Tillinghast, Edgewood, and A. T. Begueron, Providence, Rhode Island, United States. July 22.

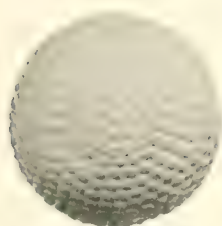


# Goodrich Rubber Goods

= For =

Factory, Office, Home  
and Outing.

EVERYTHING IN RUBBER.



The B. F. Goodrich Company,  
AKRON RUBBER WORKS.

NEW YORK, 66-68 Reade Street and 1699 Broadway.

BOSTON, 157 Summer Street.

CHICAGO, 141 Lake Street.

DENVER, 1444 Curtis Street.

BUFFALO, 9 W. Huron Street.

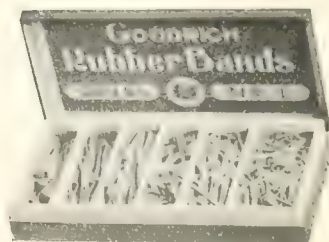
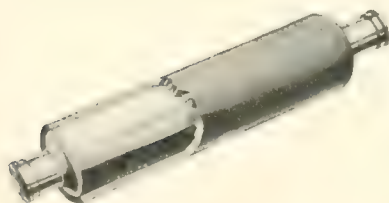
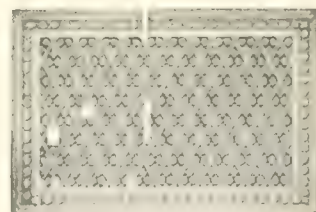
DETROIT, 80 E. Congress Street.

PHILADELPHIA, 922 Arch St.

SAN FRANCISCO, 392 Mission St.

LONDON, 7 SNOW HILL, E. C.

*Mention The India Rubber World when you write.*





# Interlocking Rubber Tiling.



It is noiseless, non-slippy, waterproof, thoroughly sanitary and so durable as to last practically a life time without requiring repairs. It may be laid directly upon existing floor, whether of wood, cement, stone or iron, therefore saving the expense of constructing a concrete floor which is absolutely necessary in all other kinds of tiling.

A perfect floor for business offices, banking rooms, court rooms, vestibules, halls, billiard rooms, smoking rooms, cafes, libraries, churches, hospitals, hotels, bathrooms, kitchens, etc.

Samples, estimates and special designs furnished upon application.

SOLE MANUFACTURERS,

**New York Belting and Packing Co., Ltd.**

25 PARK PLACE, NEW YORK.

BAITMORE, 41 South Liberty Street. BOSTON, 232 Summer Street. PHILADELPHIA, 724 Chestnut Street. INDIANAPOLIS, 229 S. Meridian Street.  
SAINT LOUIS, 411 N. 3d Street. CHICAGO, 150 Lake Street. SAN FRANCISCO, 509-511 Market Street.

Mention *The India Rubber World* when you write.

## = RUBBER BELTING =

for Elevator, Thresher, Saw and Planing Mill Work.

*"Warranted 2XL,"*

*"Shield High Grade,"*

*"Cleveland Stitched,"*

*"Buckeye."*

Good belting at low cost is the result of experience and up-to-date equipment. WE HAVE BOTH.

We also make a complete Line of Steam, Fire, Suction and Conducting Hose, Packings, and Molded Goods.

SEND FOR 120 PAGE CATALOGUE.

**THE MECHANICAL RUBBER CO.,**

. . . . CLEVELAND, OHIO.

## RUBBER EXPLOITATION AND PLANTING.

## RUBBER RESOURCES OF RHODESIA.

THE British South Africa Co., holding a royal charter for the administration of the various territories of Rhodesia, have favored THE INDIA RUBBER WORLD with some details regarding the existence of India-rubber in that region, and the nature and extent of its exploitation to date. Attention will be given first to a report by Colonel Colin Harding, C.M.G., on the rubber industry in North Western Rhodesia—a region bounded on the west by Portuguese Africa (whence come the Benguela rubbers) and on the north by the Katanga district of the Congo Free State, also a rubber producing area. It is natural, therefore, that rubber should be found in this part of Rhodesia. Colonel Harding reports the following native species:

(1) *Landolphia florida*.—Found generally in this territory between 12° and 14° S. latitude; abundant in the marshy and verdant spots, from ½ to 1½ inches in diameter and 20 to 60 yards in length, extending around the forest trees and forming an almost impenetrable thicket. The natives select the larger portions of the vines, leaving the smaller branches, which in another year would have attained maturity, to rot on the ground. The latex does not flow from the bark, so that the native method of extraction would appear to be the only practicable one. The vine is cut into lengths of 3 or 4 feet, which are carried into the kraal and soaked for 48 hours, and then hammered or pounded to remove the bark from the stems. The resulting mass is then boiled continually for three or four days, to remove as much as possible of the woody fiber of the bark, after which the rubber, while still warm, is rolled into sticks 6 inches long (*matallas*) and hung up to dry, being made later into *chetotes*, ready for the periodical visits of traders, who send it out to the Atlantic coast.

(2) *Kickxia (Funtumia) elastica*.—Found generally in the same districts; latex is obtained by tapping the trees, and the product is better than from the vines, besides being prepared with more freedom from dirt. The rubber is sometimes mixed with inferior sorts to help their sales. Colonel Harding had little personal knowledge of this species, however.

(3) *Carpodinus lanceolatus* ("root rubber"—see THE INDIA RUBBER WORLD, May 1, 1903, page 261).—"Although admittedly it is of inferior quality, still it is a rubber that thrives in the soil where no other root could exist, and will with an ordinary amount of care in collecting it, eventually prove a valuable asset." Abundant north of 15° S. latitude. The root of the *Carpodinus* so nearly resembles a length of *Landolphia* vine that only an expert can distinguish them. The *Carpodinus* plant rises only 6 to 10 inches above the surface, while the roots

are found about 4 inches below, and, spreading evenly and uniformly, cover a great deal of ground. "At present the plant is so plentiful that in rubber districts the natives collect only the larger roots, leaving the smaller exposed and perishing under a tropical sun. The surface, after the natives have collected their rubber, resembles an orchard or meadow which has been upturned by a grub-seeking hog." The process of preparing rubber from these roots is the same as from the *Landolphia* vines.

\* \* \*

ANOTHER report is by Dr. Blair Wilson, civil commissioner, in regard to the Mweru district of North Eastern Rhodesia, which lies east of the Congo Free State, between 8° 30' and 9° 30' S. latitude. Here are reported several species of *Landolphia* vines, no rubber trees being found. All the species are not of equal value, some yielding rubber scantily and of inferior quality. Rubber has long been used by the natives for playing balls, drumsticks, and the like, and until a foreign demand was developed, the vines were not injured in extracting the latex. Then the vines began to be destroyed, until now "the trade in rubber is now practically finished in the Mweru district." Whereas there were in 1899, twenty white rubber traders there, bartering goods for rubber, a large quantity of which was exported, only one trader went through the district in 1902, bringing back very little. Besides, much rubber at one time was smuggled into the district from the Congo Free State, but that has now been stopped by the authorities of the latter. The *Landolphia* vines here grew to a diameter of 4 inches. The natives not only cut all the vines, large and small, but dug up the roots, until nothing remained. The Mweru natives seem to have had but one method of preparing rubber: "The juice is collected by the hand as it flows from the cuts and is then rubbed on the body and limbs; the heat of the body and the spreading out thus in a thin layer facilitate evaporation, for the juice quickly coagulates enough to be scraped off and rolled up in the form of a ball, in which state it is always met with; by this method the maximum of purity is obtained."

\* \* \*

To recur to North Western Rhodesia, the official report of the administrator for 1901-02 (recently printed) reports a rich rubber district in the Bakaonde country, 100 by 75 miles in ex-



"ROOT RUBBER" PLANTS IN PORTUGUESE WEST AFRICA.

[Between the Kunene and Kuando rivers, west of North Western Rhodesia. From "Kunene-Sambesi Expedition" II, Baum, 1903.]



rubber trees of two species, but no *Carpodinus*, so far as he knows. The rubber, prepared in small balls, is of good quality. Very destructive methods prevail, including the tearing up of the roots of *Landolphia*. Many white traders are at work in the district, and large areas are reported in which the rubber has been exterminated. The administration will try, however, to put a stop to these abuses. This district, by the way, is on the eastern border of North Western Rhodesia, while that reported on above by Colonel Harding is on the western border.

Measures of preservation of rubber have been adopted in North Eastern Rhodesia, the administrator of which reports having proclaimed a rubber reserve in the Kafue district (immediately north of the Zambesi river), in which the work of rubber gathering will be regulated. During the year ended March 31, 1902, there were 125,998 pounds of rubber exported from North Eastern Rhodesia, valued at 1s. 6d. per pound, or £9449 17s. No statistics exist for North Western Rhodesia.

#### THE SOURCES OF "ROOT RUBBER."

DR. WEBER (in *The India-Rubber Journal*) is surprised to see the *Landolphia Thollonii* (Devèvre) described as yielding the "root rubber" of commerce, and quotes Professor Dr. Warburg in support of the contention that it is of very doubtful value, while two other species are mentioned as yielding this type of rubber—*Carpodinus lanceolatus* (K. Schumann) and *Clitandra Henriquesiana* (K. Sch.) Dr. Weber doubts whether *L. Thollonii* is found in any district whence root rubber has been exported, whereas the other two species named abound in those regions.

E. De Wildeman (in *Industrie et Commerce du Caoutchouc*) happens, at the same time, in relating the history of the discovery and identification of *Landolphia Thollonii*, to refer to *Carpodinus lanceolatus*, considered for a long time to be the source of root rubber, to be without value. Professor De Wildeman, by the way, asserts the existence of *L. Thollonii*, not only in the French Congo, but in the Congo Free State, and in Angola. The same author promises an early comprehensive study of the root rubber species, when, it is hoped, the existing confusion may be cleared up.

What is of more importance from a practical standpoint, than the proper nomenclature of these plants, is the discovery and exploitation of root rubber in districts not hitherto worked, and THE INDIA RUBBER WORLD has intimations that more than one important British commercial firm are pursuing such search in West African regions under British control.

#### ROOT RUBBER IN ENGLAND.

AN English rubber firm, writing in *The Engineer* (London), say that the obtaining of rubber from the roots of plants in west Africa is no new thing. The letter states:

"Root rubber has long been imported into this country in fairly large quantities under the name of the towns where it is

collected on or near the west African coast. We find in our books upwards of a dozen entries under the name of 'Benguella niggers.' It is of a reddish brown, varying to a dark color, and of an excellent quality.

"For years we were puzzled at the appearance of the rubber; it happened, some seven years since, that our rubber expert, Mr. J. T. Wicks, was in Paris; he there saw the director of the eminent rubber house of Hecht Frères, and asked him why so much red grass was mixed with Benguela rubber, and received the reply that Benguela rubber was obtained from the roots which the natives dig up and finely scrape, as we do horse-radish. The scrapings are steeped in water, the rubber separates out, and, owing to its light specific gravity, floats on the surface. The natives then take the plastic rubber and work it into sausage shaped pieces. The sausages are packed in sacks, and in consequence, agglomerate.

"When the rubber reaches English factories it is boiled in tanks, the sausages immediately separate, and on close inspection the native method can be traced. What we supposed to be red grass is the red woody fiber from the scraped roots."

#### WISCONSIN RUBBER CO.

[Plantation near E. Silla, Department of Pacapuc, State of Chiapas, Mexico. Office: Fairchild block, Madison, Wisconsin.]

INCORPORATED July 15, 1903, under Wisconsin laws; capital, \$1,500,000 when fully paid. Objects: To develop, on the coöperative installment plan, 5050 acres on the rivers Tulija and Michol, in Chiapas, Mexico. This property adjoins the plantation "Lumija," owned by the Mexican Plantation Association (Chicago)—one of the earliest rubber plantations formed on this plan; the plantation "Philadelphia," owned by the Mexican Plantation Co. (Philadelphia); and the estate of the Iowa Mexican Plantation Co. All of these properties are part of a 25,000 acre tract located by John R. Markley, of Chicago, in 1896, and the development of the new



"ROOT RUBBER" PLANT.

Specimen of *Landolphia Thollonii* mounted on a stone for photographing. Reference to the new "Kilima-Sambesi Expedition."

plantation, as was the case with the other three, is to be done under contract by the Mexican Development and Construction Co. (Chicago), of which Mr. Markley is general manager. It is proposed to plant 5000 acres in rubber, with a view to having 300 trees standing per acre after 7½ years, and to cultivate "side crops" on the same ground while the rubber is maturing. Five thousand shares are to be issued, for sale at \$300 each, payable in installments, if desired. The land to be developed has been fully paid for. The location is convenient to the gulf port of Frontera. Officers: Professor Rasmus B. Anderson, president; Charles H. Hall, M. D., vice president; Samuel D. Merrick, secretary and general manager; Frederick C. Hutson, treasurer.

#### JOLIET TROPICAL PLANTATION CO.

[Plantation Joliet, Tierra Blanca, state of Vera Cruz, Mexico. Office: Joliet, Illinois. See THE INDIA RUBBER WORLD, MAY 1, 1903, PAGE 351.]

At the first annual meeting over 900 of the 1259 shares sold were represented, in the hands of 294 holders or proxies. President John O. Barrett, presenting his report said: "This com-

pany is doing all that we expected of it." Treasurer T. A. Mason reported \$30,537.86 realized to May 31 from sales of shares, of which \$8684.55 had been paid on land, \$11,040 on improvement work, \$1000 for superintendent's salary six months, and \$1505.88 for other items specified, leaving a balance of \$8307.13, part of which had already been paid to pay, before maturity, a note given for purchase of the land. There are still outstanding notes for \$21,000, held by shareholders in the company, the last one maturing January 1, 1906. Payments on shares now amount to about \$2500 a month. A rubber nursery had been formed, with a view to transplanting this fall. "Considerable rubber" had also been planted at stake. The cattle business is believed to be good, and at first much attention will be given to pasturage. The Rev. D. T. Robertson, of Joliet, was chosen to make the first annual inspection, with Professor H. A. Fraser alternate inspector. The company own 3200 acres of land. The financial report above mentioned is noticed here so fully because it is the clearest yet published by any of the rubber planting companies organized on the coöperative installment plan.

#### LA NUEVA PROVIDENCIA RUBBER CO.

[See THE INDIA RUBBER WORLD, May 1, 1903.]

At a meeting of the shareholders (Providence, Rhode Island, July 29), it was voted to increase the capital stock from \$20,000 to \$100,000, to develop the company's rubber plantation in Guatemala. After the meeting the shareholders enjoyed a dinner at the Narragansett Hotel, for which had been prepared a handsome and unique menu card, bound in sheet rubber.

#### MEXICAN MUTUAL MAHOGANY AND RUBBER CO.

INCORPORATED under South Dakota laws with \$2,500,000 capital, in \$1 shares, now offered to secure funds for completion of purchase price of 168,988 acres, in Palenque department, state of Chiapas, acquired directly from the government, and to begin work of development. The plans embrace the cutting of mahogany and cedar and gathering wild rubber and chicle, both of which are reported to abound on the property. It is not intended, at first, to do any planting. There has been a change in the list of officers since a former notice in these pages (April 1, 1903—page 226). Dr. O. Hasenkamp is president, J. A. Parker vice president, H. H. Barber secretary, and George A. De Witt treasurer—all of Toledo, Ohio, where offices are established in the Spitzer building.

#### THE UDAPOLA RUBBER CO., LIMITED.

THIS is a new company, with capital authorized of 50,000 rupees [= \$16,221.67], formed to purchase the Udapola estate, in the district of Kegalla, Ceylon, and to develop the same, or any other premises that may be acquired, India-rubber planting to be the chief object. Directors: E. D. Harrison, William Saunders, Thomas C. Huxley, A. L. H. Haycock, and F. L. Clements—all of Colombo.

#### AN EXPEDITION TO THE AMAZON.

MAJOR J. ORTON KERBEY, of Pittsburgh, Pa., some time United States consul at Pará, since when he has been interested in the development of enterprises in relation to rubber exploitation, informs THE INDIA RUBBER WORLD that he is organizing an expedition to the Amazon valley, to give investors and merchants an opportunity to see for themselves the resources of the rubber regions and the possibilities of trade in them. Several citizens of Pittsburgh have expressed an intention of joining the expedition.

#### BALATA IN TRINIDAD.

THE report of this British colony for 1901-02 mentions the appointment of a forest officer, in order to preserve the forests in a systematic manner. "Large quantities of Balata," it is

stated, "a valuable species of hardwood, have been killed by persons stealing the gum for exportation, but steps are now being taken which it is hoped will put a stop to this destruction."

#### MEXICAN HOSPITALITY AT MANATITLAN.

THE United Planters' Association of Mexico, composed largely of Americans interested in rubber and coffee plantations, arranged to have a general meeting followed by a banquet and ball at Minatitlan, Vera Cruz, on the Fourth of July. It happened that the *jefe politico* of the canton heard of it, and calling the principal Mexican business men together, a generous sum of money was raised, so that the town was decorated, and the American guests were greeted with bands of music, fireworks, and cannonade salutes, and Mexican and American fraternized in a manner that was delightful to behold. The banquet, with its speeches, its songs, and the ball that followed, was most successful. On the morning following the celebration, the United Planters' Association met and resolved to fraternize with their Mexican hosts, on their own Independence Day, which takes place on September 16. For this \$2000 was pledged, and an exceedingly interesting celebration is in prospect.

#### DROUGHT IN CEARA (BRAZIL) AND RUBBER.

THE exportation of rubber from the Brazilian state of Ceará (from *Manhot Glaziovii*), though begun as long ago as 1846, has so far failed to attain great importance, if an exception be made of two or three years embraced in the table below. The exports for ten years past have been [in kilograms]:

1893.....	135,300	1898.....	1,008,317
1894.....	146,627	1899.....	520,476
1895.....	191,108	1900.....	436,176
1896.....	324,327	1901.....	228,782
1897.....	493,507	1902.....	300,000

As indicated in THE INDIA RUBBER WORLD of April 15, 1894 (page 8-9), the methods of extraction of Ceará rubber are injurious to the trees, but another important consideration is the frequent prevalence of severe drought. The *Brazilian Review* remarked lately that "drought in Ceará has become so common as to appear almost the normal condition." In 1898, according to a British consular report, 25,872 poor people emigrated from that state to the Amazon rubber regions to find work, on account of the parched condition of the lands. The loss in cattle, which could not be removed, was very heavy. The total rainfall was only 20½ inches, against 75½ inches in 1897. It is reported, by the way, that the drought now prevailing in Ceará is exceptionally heavy—a fact which may again, as in the past, contribute to a heavy rubber crop on the Amazon, due to the exodus thither of Cearenses. Meanwhile the Ceará rubber crop may be expected to be very small.

#### RUBBER MONOPOLY IN THE EGYPTIAN SOUDAN.

THE Anglo-Egyptian administration in the Soudan, by decree of May 1, 1903, has claimed for its own the commerce of Caoutchouc and Gutta-percha (all through the Soudan with the exception of Kordofan), as well as of ivory (in the Bahr-el-Ghazal and Fashoda districts), under governmental management. Seemingly this measure has been prompted by a desire to prevent the obnoxious system of spoliation with regard to these valuable natural products, as is practised in so many regions of Africa.—*Gummi-Zeitung*.

#### RUBBER PLANTING COMPANY PUBLICATIONS.

BATAVIA Plantation Co., Milwaukee, Wisconsin=Information Bulletin [August, 1903]. 8 pp.

The Motzorongo Co., Chicago, Illinois=The Motzorongo Bulletin, No. 11, August, 1903. 4 pp.



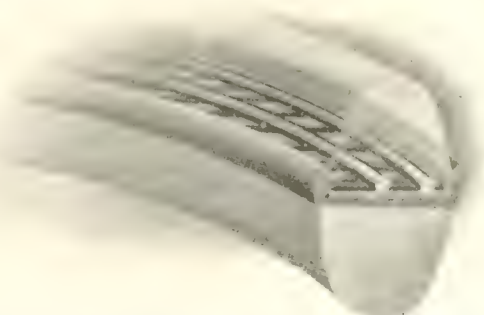
## NEW GOODS AND SPECIALTIES IN RUBBER.

## AN AMERICAN TENNIS BALL.

THE B. F. Goodrich Co. (Akron, Ohio), having revolutionized the golf ball industry by the manufacture and sale of the "Haskell," are now turning their attention to an improvement in tennis balls. Some few of these balls were made last season but it was not until this spring that they reached the state of perfection to command the praise of the most expert players throughout the country. It is generally conceded that the manufacture of tennis balls is one of the "trickiest jobs" in the trade. The Goodrich company went about it in their usual systematic manner, and, to begin with, employed an expert at the game, in order to check up results as the work progressed. Heretofore, American tennis balls have been at a great disadvantage, because the rubber balls, or "centers," as they are technically called, were imported from Germany. The Goodrich company do all of the work at their factory in Akron, turning out finished balls of the highest quality from the crude materials. In fact, the Goodrich tennis ball is the first truly American made one to be produced in this country. It was used exclusively for the Southern Championship tournament at Washington this spring, held under the rules of the United States National Lawn Tennis Association, and in a number of smaller tournaments. On account of the enthusiastic reception accorded the new ball by the players, a special meeting of the United States association was called to be held during the latter part of August, at Newport, during the National Championship tournament, when the question of adopting an official ball for next season's tournament was to come up. The tennis ball itself, on analysis, shows excellent workmanship, the body of the ball being made of white rubber, lined with pure unvulcanized solution with a pure lozenge through which the air for inflation is forced. The outside of the ball is covered in the usual manner and marked "Goodrich 1903."

## THE "REPUBLIC" CROSS-WIRE TIRE.

THE illustration relates to an arrangement of cross wires, beneath longitudinal retaining wires, in a solid rubber tire for

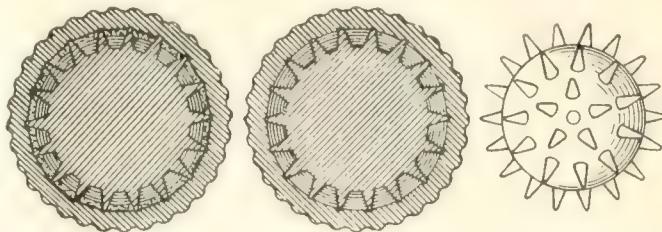


vehicles. The effect claimed is that the tire cannot come off, there being no cutting through the base, and the manufacturers refer to the use of materials of a quality which enables them to guarantee the tire. [The Republic Rubber Co., Youngstown, Ohio. Selling manager of these tires in New York, Frederick E. McEwen, No. 808 Seventh avenue.]

## THE CRANDALL GOLF BALL.

A GOLF ball that already in an experimental way has shown many points of excellence is that illustrated by the accompanying cuts. It is quite simple in design, the core being a rubber

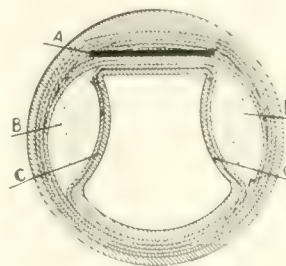
sphere from the surface of which are a great number of protuberances. These are in reality pyramidal spines of rubber so vulcanized that they are of a different texture from the body of



the sphere. The rubber core, in making the finished ball, is wound with fine thread and over that is put the Gutta-percha cover. The theory is that this combination and arrangement gives peculiar resilience that equals the best flyers among golf balls and yet produces a ball that is much cheaper to make and easier to repair. Another claim is that the cover very rarely splits in a ball of this type. [Stoughton Rubber Co., Boston.]

## TENNANT'S PUNCTURE PROOF TIRE.

THE object in the construction of this tire is to prevent collapsing when in use by reason of being punctured or cut. The



body of the tire is composed of an outer tubular portion, thinnest at the rim and thickest at the tread, and strengthened inside by a tubular body of fabric, also of increased thickness at the tread. Within the tire, enclosed in walls of fabric, are two spaces (B B) having a filling of sponge rubber. The remaining space is filled by the air tube (C C). In addition, the tread portion of the tire has embedded in it an annular flat metallic strip (A), lying between the two layers of fabric above mentioned. The use of the metallic plate is to prevent punctures through the tread, and that of the sponge rubber bodies is to protect the air tube from side punctures. In the manufacture of the tire, it is built up and vulcanized so as to form, in effect, a single body, the several layers of fabric and rubber being united to each other and enclosing the metallic strip during the process of vulcanization. The fillings of sponge rubber, however, are inserted in a half cured condition, as otherwise such rubber might not become sufficiently vulcanized during the operation of vulcanizing the remainder of the tire. This tire is patented [No. 709,280] and is marketed in sizes for automobiles by the Tennant Auto-Tire Co., Springfield, Ohio.

## THE "OLD SALT" BOOT.

IT is a well known fact that the salt water fisherman is a constant user of rubber boots, and is somewhat of a crank withal in his requirements. For example, he wants a boot made on a straight last; that is, he has no use for rights and lefts, and in this he is correct, for he can make a pair last longer by changing one for the other. He also wants an exceedingly durable boot and one compounded to resist the action of salt water. The "Old Salt" boot has been made to fit exactly these wants. Instead of having a heavy felt lining which gets sodden with perspiration and is almost impossible to dry, this boot has a lining of knit wool, which is dryer, warmer, and lighter in

the leg, and much more cleanly. [The Beacon Falls Rubber Shoe Co., Beacon Falls, Conn.]

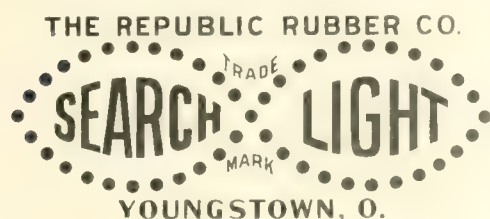
#### "AGNOTA" VEST POCKET PUNCHING

ALTHOUGH designed at first as a toy, this has proved to be an efficient little exerciser. It consists of a light but strong rubber bag, that may be inflated up to say 8 inches in diameter. To this is attached a strong rubber cord with finger loops of braided material at the other end. When it is desired to use the exerciser, the bag is blown up, the free end of the cord grasped in the hand, and a blow given to the bag which carries it away to the limit of the elastic cord, when it bounces back toward the operator, who continues punching it. There is room for considerable skill in successfully punching the elusive ball, and in acquiring that skill one not only becomes alert and accurate, but at the same time the muscles are well developed. When not in use the whole outfit weighs less than 2 ounces, and it is small enough to carry in the vest pocket. It is protected by patents. The retail price is 25 cents. [The M. Lindsay Rubber Co., No. 298 Broadway, New York.]

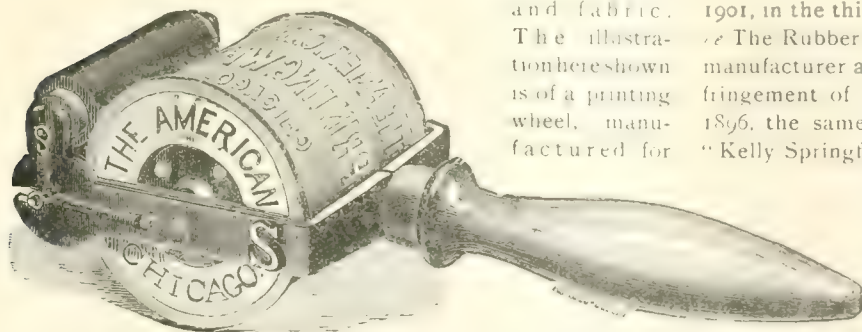


#### FOR BRANDING SHEET PACKINGS.

INQUIRY has often come to the office of THE INDIA RUBBER WORLD for the name of a manufacturer who produces a rotary



rubber stamp large enough to brand distinctly and continuously sheet packings and other goods made of rubber and fabric. The illustration here shown is of a printing wheel, manufactured for



just this purpose, and to-day widely in use. As will be seen, the wheel has a roller attachment connected with it upon which is a pad, inking the rubber die as it revolves. A rubber manufacturer who desires such a tool has simply to make a wood cut of the proper size, showing his trade mark. From this the manufacturer of the printing roller makes a rubber die, which is firmly attached to the wheel and the job is completed. Accompanying the electrotype sent by the maker of this roller is a fac-simile of the work done by one of his tools in the factory of the Republic Rubber Co., of Youngstown, Ohio, which is shown herewith, as a specimen of what can be done by this means, the stamp measuring 5x11½ inches. [James H. Matthews & Co., Inc., Pittsburgh, Pennsylvania.]

THE Standard Rubber and Oilcloth Co. (Campello, Mass.) have resumed operations.

## RUBBER NOTES FROM EUROPE.

### GERMANY.

THE rubber goods factory of Graff & Co. at Solln (Munich) has been purchased by the Hannoversche Actien-Gummiwaaren-Fabrik, of Linden-Hanover, who undertook its operation on August 1. The object is both to relieve the Linden factory and to provide means for the prompter supplying of customers in south Germany and Switzerland. The management of the branch will be in the hands of two capable men from Linden, and the products will be the same, in both mechanical and surgical goods.

—The press of Berlin has been urging the United Berlin Omnibus Co. to equip their vehicles with rubber tires, since not even the fact that very many of the streets are paved with asphalt renders riding in the omnibuses an unmixed pleasure.

—The death is reported, at Berlin, on July 24, of Herr Carl Schwanitz, founder and manager of the firm Carl Schwanitz, Gummiwerk, Müllerstrasse 179 B, in Berlin. The funeral was largely attended by members of the trade.

### AUSTRIA.

MESSRS. ADOLF PRINZHORN and Sigmund Seligmann, of the Continental Caoutchouc- und Guttapercha-Compagnie (Hanover, Germany) having resigned from the board of the Oesterreichisch-Amerikanische Gummi-Fabrik-A. G. (Vienna), Dr. Julius Caspar has been chosen in their stead.

### GREAT BRITAIN.

THE Northwestern Rubber Co., Limited, reclaimers of rubber, owing to the increase of their business, have been compelled to remove their offices from 51, North John street, Liverpool, to their works, Litherland, Liverpool, dating from August 1.

### GRANT TIRE PATENT VALID IN FRANCE.

THE validity of the Grant patent on solid rubber vehicle tires has now been definitely established in France. The first decision relative to this case was rendered on November 22, 1901, in the third chamber of the Palais de Justice, in Paris, in *The Rubber Wheel Tire Co. v. Loubiere*, the latter being a manufacturer at 62, rue Desrenaudes—an action for alleged infringement of the French patent No. 252,731, issued April 10, 1896, the same relating to what is known in America as the "Kelly Springfield" tire. The decision was in favor of the

plaintiff, embodying the principle that, while each of the parts and processes employed by The Rubber Tire Wheel Co. in the construction of their tire might already have become public property, yet "a novel combination of known means is patentable, provided that the article

produced by the combination is of industrial utility." [See THE INDIA RUBBER WORLD, January 1, 1902—page 109]. Loubiere appealed from this decision, leading to a hearing before the court of appeals, fourth chamber, where, on July 3, the former judgment was affirmed, the appellant being sentenced to pay the costs of the action.

WITH regard to the yield of rubber, there seems to be a great variety of ideas. One told of tapping fourteen wild trees, 10 inches in diameter, and getting only a watery fluid, and no rubber. While another tapped eighty wild trees of the same size and got 150 pounds of rubber. A conservative estimate covering all trees on a good plantation was given me as about four ounces for each six year old tree, increasing up to the tenth year, when about a pound would be produced. This is less than many claim and than some are getting, but even this would show a good profit.—*Letter from Mexico.*



## THE RUBBER TRADE IN AKRON.

A ACCIDENT CURE. NIENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The increased use of automobiles has resulted in the rubber companies placing the best talent at their command at work in an effort to develop the best tires possible to be made. Every manufacturer wants to place on the market a tire just a little better than the other fellow, and the result is that the past summer has seen several improvements over the tires formerly manufactured. There is a keen rivalry between the manufacturers of automobile tires, and the manufacturers are spending much money in calling the attention of the automobiling public to their products. The recent across-the-continent trips of Dr. H. N. Jackson and Tom Fetch have demonstrated that Akron tires are well made, and now the makers of these particular tires are busy engaged in exploiting the feats of their particular champions. The demand for tires of all kinds continues brisk, and the business in this line done by the rubber manufacturers has far exceeded their most sanguine hopes. In fact, the demand for tires has resulted in a summer season without the usual accompanying slack period, an unprecedented occurrence in the Akron trade. The manager of the shipping department of one company, which makes a large portion of the tires used in this country, states that his department has been so busy it has been impossible for him to enjoy his annual vacation, and men in like positions in other factories have had a similar experience.

\* \* \*

THERE appears to be a tendency toward heavier automobile tires this year, and local manufacturers are recognizing that they must make their tires a little more substantial than in the past. There seems to have been a pretty general disposition among automobile manufacturers to equip their machines with tires which were too light for the weight of the machine. Local tire manufacturers are increasing the weight of all their automobile tires this season, from those intended for the big touring and racing cars to the little runabouts. They have succeeded in doing this without destroying the resiliency of the tires, but before this was done a great many experiments were made. Most of the local manufacturers believe that the detachable tire is bound to be the favorite with automobile owners. They believe that the single tube tire is bound to be superseded by the detachable or "clinchier," and that the time is not very far distant when a great majority of the automobiles in use will be equipped with the detachable tire. The recent across-the-continent trips are cited as instances of the durability and convenience of this style of tire, and almost every manufacturer has a hundred reasons at his tongue's end as to why the detachable is superior to the single tube tire.

\* \* \*

LOCAL rubber manufacturers are taking more than a passing interest in the annual automobile endurance contest which will be run from New York to Cleveland under the auspices of the National Association of Automobile Manufacturers. It is realized that automobile tires will get a pretty thorough test, and all of the tire manufacturers in this city will see that their tires are in the test. The announcement of Secretary Harry Unwin, of the National Association, that the roads from Cleveland to New York are in very bad shape for automobiling, being rough and practically uncared for, makes it positive that the test will be calculated to show the merits of the various tires on the market, and Akron manufacturers are anxious to establish a reputation for their goods along this line. The contest will also furnish a chance for a comparison of the tires in use at present

with those used in the contest of a year ago. Doubtless it will be found that the improvements will consist largely in the increased use of the detachable tire, heavier goods, and superior compounds calculated to prevent the rubber from separating from the fabric in case of slipping.

\* \* \*

THE Akron rubber men held a clambake at Blue Pond park on August 8, and it was one of the most enjoyable outings ever given by Akron men interested in this business. The outing was arranged by Mr. A. C. Squires and was under his personal direction. In addition to the clambake there was a program of sports which took up the greater part of the afternoon and furnished much amusement. There was a cricket match between two teams composed of rubber men, and a wrestling match. Music was furnished by the Goodrich band.

One of the biggest picnics of the season was that of the employes of The B. F. Goodrich and American Hard Rubber companies, on July 25, at Silver Lake. These two companies make it a point to see that their employes have a good time at their annual picnics, and in addition to furnishing prizes for the different sporting events, give their employes tickets to the grounds, as well as street car tickets. Over 10,000 people were in attendance at Silver Lake park, and the various sporting events were thoroughly enjoyed. In the forenoon a game of ball was played, resulting in a victory for the Goodrich team. In the evening the big pavilion was filled with a merry crowd of dancers until a late hour.

Second only in size was the picnic which the Diamond Rubber Co. gave their employes at the same park on August 1. This outing was attended by about 4000 people and the afternoon was spent in games and sports. The feature of the day was the contest for queen of the picnic. Miss Mary Coppard, who has charge of the telephone exchange at the plant of the company, was the successful contestant and received a diamond ring. The Diamond company also furnished their employes with transportation and admission to the grounds.

\* \* \*

AKRON rubber manufacturers will be well represented at the big carriage shows the coming fall. The Goodrich, Diamond, Goodyear, and Firestone companies have secured space at the Boston show, which opens September 1, and some of the companies will be represented also at Philadelphia and Cincinnati.

The rubber belting business continues to be very good. The demand for rubber belts has never been exceeded, and even during the slack season the rubber companies which make a specialty of this class of goods were kept busy supplying orders.

L. E. Housley and E. L. Rettig, of the Boston branch of The Diamond Rubber Co., have been in Akron for several days buying goods for the establishment of a rubber store in Seattle, Washington. They will deal in mechanicals, tires, and a general line of rubber goods.

Mr. W. B. Miller, secretary of The Diamond Rubber Co., has returned home from an eastern business trip. Mr. A. H. Noah, treasurer of the company, has also returned from a two weeks' outing at Star Island.

For the first time since their organization The B. F. Goodrich Co. have had an employe arrested for petit larceny. William Thompson is the man who developed too great an appreciation of the products of the company, and after pleading guilty to the charge he was fined by Mayor Kempel. Thompson's room near the plant was searched by detectives after he had been suspected of taking the goods, and enough was found to stock a small rubber store. He could have been charged with grand larceny, but the company did not care to punish him further.

The annual meeting of the Firestone Tire and Rubber Co. was held Saturday, August 15, resulting in the reelection of the board and officers, as follows: Directors: H. S. Firestone and Will Christy of Akron; F. O. Sawyer, St. Louis; Amos B. Miller, Chicago; and Dr. L. E. Sisler, Akron. Officers: H. S. Firestone, president; Will Christy, vice president; Dr. L. E. Sisler, secretary and treasurer.

Richard Ward, of Akron, has accepted a position with the Rubber Specialty Co. (New Brunswick, N. J.) and left for that place on August 18. Mrs. Ward is a well known musician of this city and for the past year has sung in a number of the New York churches.

Messrs. H. S. Firestone, president of the Firestone company, and F. O. Sawyer of St. Louis, a stockholder in the company, were in New York recently, where they went to superintend the fitting of a big truck with eight inch tires made by the company, and which are said to be the largest solid rubber tires ever turned out.

## THE RUBBER TRADE IN TRENTON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The Dyson Rubber Co., of Trenton, was incorporated under New Jersey laws on August 11, with \$25,000 capital authorized, to make matting and other molded goods of rubber. The incorporators are George S. Dyson, late of the Dyson & Lawshe Rubber Co. (Trenton), Ellen Dyson, and Randolph M. Drake, late of R. M. Drake & Co., brick makers. A substantial brick building has been leased from Mr. Drake, at May and Beakes streets, and rubber machinery is being installed with a view to beginning work in October. Mr. Dyson is a practical rubber man of several years experience.

The retirement of Mr. Dyson from the Dyson & Lawshe Rubber Co., of which he was vice president, will make a reorganization necessary. John J. Cook is president and J. M. Lawshe secretary, treasurer, and general manager. The company was incorporated in 1902 to make a line of molded goods in rubber and has had a good business, only lately installing a new press and making other improvements.

Mr. W. Holt Apgar, president of the Reliance Rubber Manufacturing Co., is grand master of the Grand Lodge of the State of New Jersey, and took part in the Masonic ceremonies at the laying of the corner stone of the Union County courthouse, at Elizabeth, on July 30, and of the new city hall at Newark on August 5. Mr. Apgar presided at the annual banquet of the Grand Lodge at Pleasure Bay, on August 6.

The New Jersey Rubber Co., at Lambertville, have greatly increased the efficiency of their reclaiming plant. Machinery has been installed for a new process, whereby the company claim to be able to produce the cleanest reclaimed rubber on the market. There have also been added a Bates-Corliss engine and a 500 HP. Cookson improved feed water heater, purifier, filter, and oil separator. The storehouse, a brick structure 81x45 feet, has been raised from one story to three, and the first story provided with a granolithic floor. The two upper floors are used for storing raw material. The Hon. P. V. Voorhees, president of the company, has spent the summer at Poland Springs, Maine, and Mr. Edward R. Sollday, vice president, at Asbury Park, New Jersey.

Mr. John S. Broughton, general manager of the United and Globe Rubber Manufacturing Cos., and a leading member of the Country Club, is an enthusiastic automobilist and drives a speedy machine.

## THE TEXTILE GOODS MARKET.

THIS is a vital period in the textile trade, and there is therefore considerable interest shown in the market for both raw material and finished goods. The cotton year closed with August 31, and the cotton grower as well as the manufacturer is looking, as it were, both ways. That is, he is indulging in retrospective glances and anticipations of the future. Since the last issue of THE INDIA RUBBER WORLD the market for cotton has not undergone any radical change, the manipulators having continued their speculative tactics through the entire month, and conditions are about as the conservative manufacturer expected they would be at the close of the cotton year. The price of spot cotton is  $3\frac{3}{4}$  cents higher than it was a year ago this date, and while there is nothing very definite as yet to base calculations on, the cost of the new crop cotton is expected to come within the range of  $10\frac{1}{2}$  @  $11\frac{1}{2}$  cents. At this writing a considerable quantity is being bought in the South at the latter quotation, while some mills are paying 12 cents. It has been a long time since the stock of cotton, either in the South or elsewhere in this country, has been so thoroughly cleaned up as now. It stands to reason, therefore, that there will be a general stampede for cotton as soon as the new crop is marketed, and that full prices will be paid. Heavy rains and lack of sunshine for the past few weeks have retarded the growth of the crop over a large part of the central and eastern cotton districts, while in other sections too much stalk, excessive shedding, and rust are reported. The plant, however, is generally fruited throughout the belt. In some parts of Texas the boll weevil is doing much damage. A little picking has been done throughout the southern portions of the belt, but this work is not general as yet. In view of the strong statistical position together with the hazardous conditions of the coming three months through which the new crop will have to be carried before a reasonably safe estimate as to the yield of 1903-1904 can be made, there is no good reason for the price to be as low as it was in the fall of 1902. On the other hand, there is ample cause, as now shown, why the prices during the coming cotton season should range higher.

The following table gives the price of cotton middling upland spots at the ports of New York, New Orleans, and Liverpool:

	New York.	New Orleans.	Liverpool.
August 6.....	12 $\frac{3}{4}$ cents	12 $\frac{3}{4}$ cents	6 62 $\frac{1}{2}$
August 13.....	12 $\frac{3}{4}$ cents	12 $\frac{3}{4}$ cents	6 84 $\frac{1}{2}$
August 20.....	12 $\frac{3}{4}$ cents	12 $\frac{3}{4}$ cents	6 70 $\frac{1}{2}$
August 27.....	12 $\frac{3}{4}$ cents	12 $\frac{1}{2}$ cents	6 80 $\frac{1}{2}$

The curtailment begun by manufacturers of cotton duck and sheeting several weeks ago has been carried on in all parts of the country, so that probably never before has there been such a restricted output of finished cloth because of the high cost and scarcity of cotton. Speculators have been reporting sales of cotton to spinners, but as the mills are using very little material, there is reason to question the accuracy of this announcement. In every instance the manufacturers have given as the reason for such curtailment that they were not warranted in paying the high price for cotton with the goods market on its present basis, and consumers determined not to pay more. The basis of prices on which the mills estimate that they can make a reasonable profit is such that raw cotton must be purchased at 10 @  $11\frac{1}{2}$  cents, which would keep goods at a parity with the staple.

The consumption of textiles by the rubber trade during the past year surpasses that of any previous twelve months. A year ago the rubber manufacturers placed heavier orders than ever before, and they have had use for every pound of duck contracted for. Few of the mills, have had enough raw cotton



The air brake manufacturers have been calling for duck in unusually good quantities, and the bulk of their takings for the year has never before been equalled. Some of these concerns have been so crowded with orders for goods that they have sublet their contracts to other brake manufacturers. The stitched belting concerns also have had a good season, so far as demand goes, and have been heavy consumers of duck, but there is no doubt that these manufacturers have had a difficult time in getting a new dollar for an old one this season. The prices for which they have been compelled to part with their product has been on too low a basis to permit of their making any money, and they are heartily glad that the season is at an end. What will be done in the way of new prices for the coming season, is as yet a matter of conjecture, but the price of stitched canvas belting will be higher. An effort has been made several times of late to get the various stitched belting manufacturers together for the purpose of arranging a price basis for the new season, but without success. The smaller ones have been anxious to know what the one large corporation is going to do before taking any steps in the direction of making new prices. But the concern in question which produces perhaps 75 per cent. of this class of goods, has thus far ignored its competitors, and each faction is seemingly waiting for the other. It is believed, however, that before another month the prices for which stitched belting will be sold will have been fixed, and a radical advance over old prices will be the result. Below are the prices for which textiles consumed by rubber manufacturers are selling to-day :

10'	Highgate... 2 1/2 c.	40'	Selkirk... 7 1/2 c.	10	Shamrock... 8 1/2 c.
10'	Hightown... 1 1/2 c.	40'	Selwey... 7 1/2 c.		
10	Hobart... 6 1/2 c.	40'	Mohawk... 10 c.	40	7 oz. Cran-
10	Kingstons... 5 1/2 c.	40'	Marcus... 5 c.		ford... 8 c.
39'	Stonyhurst... 5 1/2 c.	40'	Mallory... 5 c.	40'	8 oz. Chart-
39'	Sorosis... 5 c.	30	Capitans... 4 c.		res... 8 1/2 c.
40'	Seeford... 7 1/2 c.			10 oz. Carew... 10 1/2 c.	
		40'	Iroquois... 8 1/2 c.	40'	11 oz. Anita... 11 1/2 c.

## [. . . . .]

POPE MANUFACTURING CO.

HOLDERS of certificates issued by the reorganization committee of the American Bicycle Co., for debentures and shares deposited with the committee under the agreement dated December 15, 1902, were notified during the month that on and after August 25 the same could be exchanged for the securities of the Pope Manufacturing Co., by which name the business is now known.—A decree was issued in the United States circuit court at Trenton on July 29, providing for the discharge of the receivers of the American Cycle Manufacturing Co., and permitting the company to transact business in its own name. The company is one of those constituting the American Bicycle Co., lately succeeded by the new Pope Manufacturing Co., and the shares are held by the latter corporation. Certain other formalities require attention before the Pope Manufacturing Co. can formally replace this branch corporation, though the name of the Pope company is being signed to papers affecting the American Bicycle Co.—The plants of the American Bicycle Co. in Connecticut not previously disposed of were sold at auction on August 11. The Pope Manufacturing Co. bought the old Lozier plant at Thompsonville for \$15,000. The old Hartford Cycle Co. plant went to a typewriter concern for \$150,000.

## NEWS OF THE AMERICAN RUBBER TRADE.

## HARTFORD RUBBER WORKS CO.

THE annual conference of the officers, branch managers, and traveling representatives of this company has now become a much appreciated fixture in the policy of the company. It occurred this year during the first week in August, at the company's offices, in Hartford, Connecticut, and the program included a pleasant day's outing on August 6. The branch managers in attendance were—

New York—R. P. Parker.	Detroit—E. E. McMaster.
New York—uptown—E. S. Roe.	Chicago—S. E. Gillard.
Boston—E. R. Benson.	Minneapolis—W. C. Dawdy.
Philadelphia—C. E. Fay.	Denver—H. E. Field.
Buffalo—James How.	San Francisco—M. J. Tansey.
Cleveland—J. B. Kavanaugh.	Atlanta—S. E. Finley.

Fifteen traveling salesmen were present, representing territories extending from New England to Kansas, and as far south as Georgia.

## FIRESTONE RUBBER FACTORY (AKRON, OHIO.)

THE Firestone tire, with its successful side wire fastening, and its triumphs at home and abroad, have all been faithfully chronicled in THE INDIA RUBBER WORLD. A presentment of the plant where the tires are made, however, has never before been given in these pages. The factory of the Firestone Tire and Rubber Co.—which by the way is the largest in the world devoted exclusively to the manufacture of solid tires—is of brick, two stories in height, and of modern substantial mill construction. The power plant consists of a 200 HP. Buckeye engine, two 200 HP. Biggs boilers, and the usual accessories in the way of fire pumps, dynamo for electric lighting, etc. The rubber machinery comprises one washer, four mixers, one calender, four large vulcanizers, tubing machines, wire machines, and a variety of special machines and tools created for this especial business. Mr. H. S. Firestone, the inventor of the tire that bears his name, manages the factory personally, having an efficient assistant in Mr. S. G. Carkhuff.

## THE REPUBLIC RUBBER CO. (YOUNGSTOWN, OHIO.)

JOHN TOD has resigned as treasurer of this company, to take effect on September 1, but will retain his interest and continue on the board of directors and as secretary of the corporation. The active management is assumed by Warner Arms, who succeeded Henry K. Wick as president some months ago.

## STOLEN RUBBER RECOVERED.

THE truck load of crude rubber, shipped by the New York Commercial Co. to an out-of-town customer, and lost sight of before leaving the city, as reported in the last INDIA RUBBER WORLD, was recovered within a few days. One Hiram Mandel, a man with an unsavory record, was arrested by the New York police on suspicion, when a confession was extorted from him which led to the recovery of the rubber in a junk shop,

where, the detectives say, the rubber was not known to be stolen goods. The value of the rubber was about \$6500.

## AMERICAN RUBBER CO. (BOSTON).

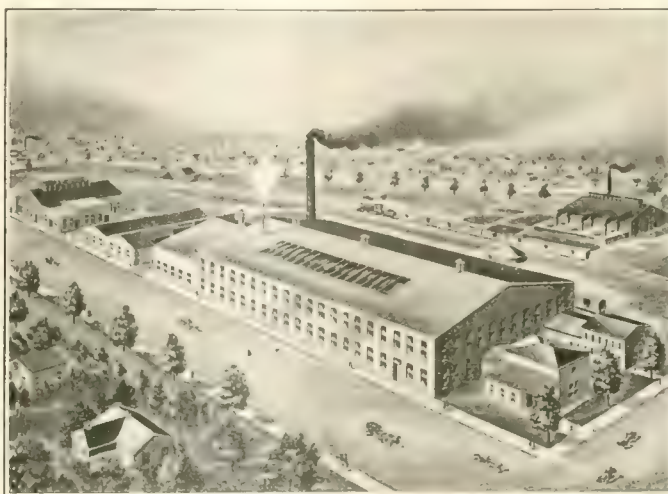
SWORN statement filed with the Massachusetts commissioner of corporations—accounts presented at the annual meeting July 6, 1903:

ASSETS.		LIABILITIES.	
Land.....	\$ 37,257.00	Capital stock.....	\$1,000,000.00
Buildings.....	148,617.25	Debts.....	17,014.63
Machinery.....	136,927.22	Balance profit and loss.....	436,117.43
Special.....	800,000.00	Reserve for depreciation.....	865,734.01
Cash and debts receivable.....	839,780.92	Dividends unpaid..	40,000.00
Manufactures and stock in progress.	1,174,253.68	Special.....	800,000.00
Miscellaneous.....	22,000.00		
Total.....	\$3,158,866.07	Total.....	\$3,158,866.07

Shareholders: United States Rubber Co., 9882; Samuel P. Colt, 20; William R. Dupee, 24; Harry E. Converse, 24; Lester Leland, 20; Costello C. Converse, 30; total, 10,000.

## MR. CONVERSE'S BIRTHDAY.

A FAMILY-reunion at the home of the Hon. Elisha S. Converse, Malden, Massachusetts, celebrated his eighty-third birthday, on July 28. The party included Mr. Converse's sister, Mrs. Emeline Williams, now nearly 87 years old, the two being all that are left of a large family of brothers and sisters. There were many callers at the house during the day to make inquiries regarding Mr. Converse's health, which has been better this summer than for some months previous, and to leave congratulations or mementoes. Mr. Converse was the first mayor of Malden and in



FIRESTONE TIRE AND RUBBER CO.'S FACTORY.

many ways has contributed to the general welfare of the community, apart from the benefits arising from the location there of the Boston Rubber Shoe Co., of which he was the founder.

## THE MARION INSULATED WIRE AND RUBBER CO.

In regard to this new company, at Marion, Indiana, previously mentioned in these pages in our issue of June 1, 1903 (page 320) THE INDIA RUBBER WORLD is informed: "We now have all our factory buildings well under way, and if there are no unforeseen delays will complete the same by September 10 to 20. We have contracted for a considerable part of our machinery and anticipate little delay in getting the same after we are ready to receive it."

## OUTING OF THE TYER RUBBER CO.'S EMPLOYEES.

THE annual picnic of the employees of the Tyer Rubber Co. (Andover, Massachusetts) was held at Revere Beach, on Saturday, August 1, about 400 being present. Special electric cars were taken from the factory at Andover direct to the beach, and after an interesting two hours trolley ride, the day was spent enjoying the sights which make this resort so attractive. A basket lunch was served at noon and late in the afternoon



the cars were again taken to Andover, where all arrived safely, making the day a most pleasant one to remember. Superintendent McTernan had charge of the arrangements, and was assisted in carrying out the plans by a very generous contribution from the company.

CHARLES E. FARRINGTON.

CHARLES E. FARRINGTON, of the Massachusetts Chemical Co. (Boston), is a chemist and engineer of natural ability and scientific training. He was born in Dover, Massachusetts, 34 years ago, "on the farm," but through the removal of his parents was educated in Boston schools. He developed a mechanical tendency in boyhood and after the close of his school opportunities devoted his leisure entirely to the study of mechanical and hydraulic engineering and to applied chemistry. He became connected with the Massachusetts Chemical Co. in 1892, and since has been an important factor in the growth of that business. In addition to the business of the Massachusetts Chemical Co., Mr. Farrington acts as consulting engineer for many manufacturing concerns, in both Europe and America. He is recognized among electricians as an expert on the chemistry of electrical insulation, in the study of which he was a pioneer. His recent lecture on a phase of that subject before the Franklin Institute attracted a great deal of favorable criticism. He is a member of the Society of Arts, the American Chemical Society, and other scientific bodies. It is well known among American rubber men that for several years Mr. Farrington's studies have been directed particularly to problems connected with the rubber trade, with results which have been quite important.



He developed a mechanical tendency in boyhood and after the close of his school opportunities devoted his leisure entirely to the study of mechanical and hydraulic engineering and to applied chemistry. He became connected with the Massachusetts Chemical Co. in 1892, and since has been an important factor in the growth of that business. In addition to the business of the Massachusetts Chemical Co., Mr. Farrington acts as consulting engineer for many manufacturing

concerns, in both Europe and America. He is recognized among electricians as an expert on the chemistry of electrical insulation, in the study of which he was a pioneer. His recent lecture on a phase of that subject before the Franklin Institute attracted a great deal of favorable criticism. He is a member of the Society of Arts, the American Chemical Society, and other scientific bodies. It is well known among American rubber men that for several years Mr. Farrington's studies have been directed particularly to problems connected with the rubber trade, with results which have been quite important.

#### VICTOR RUBBER CO. CHANGES.

MR. ALBERT T. HOLT, superintendent of the Victor Rubber Co. (Springfield, Ohio), has resigned his position. In connection with this it is interesting to note that several men connected with the Victor Rubber Tire Co., which sells the tires manufactured by the Victor Rubber Co., have also tendered their resignations. They are Samuel Siddal, sales manager; C. E. Bradish, Chicago manager; and J. S. Webb, New York manager. With regard to the last named gentleman an interesting happening is reported. It seems that the Victor Rubber Tire Co. have offices at Broadway and Fifty-seventh street, which, after the resignation of Mr. Webb, were placed in charge of Herbert C. Comstock. Although Webb had sent in his resignation the board of directors had not acted upon it, Comstock being the appointee of the president of the company. Webb therefore declined to leave the office until he had completed his inventory and his books were audited and found to be correct. Mr. Comstock insisted upon his leaving, and upon his refusal had him arrested and taken to the station house. After hearing the evidence the magistrate dismissed the complaint, saying that he would not attempt to decide who was legally in charge of the company's office.

#### NEW YORK STOCK EXCHANGE TRANSACTIONS. UNITED States Rubber Co.

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending July 25	4,700	12	9	5,535	48	31
Week ending Aug. 1	4,579	11 <sup>1</sup> / <sub>2</sub>	7	8,905	39 <sup>1</sup> / <sub>2</sub>	30 <sup>1</sup> / <sub>4</sub>
Week ending Aug. 8	1,780	10	8 <sup>3</sup> / <sub>4</sub>	2,410	35	34
Week ending Aug. 15	1,200	12	9	1,400	37	32 <sup>1</sup> / <sub>8</sub>
Week ending Aug. 22	2,300	13	11	1,270	40	39

#### RUBBER Goods Manufacturing Co.

DATES	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending July 25	23,075	21	12	5,238	75	60
Week ending Aug. 1	26,330	16	12 <sup>1</sup> / <sub>4</sub>	5,375	68	63 <sup>1</sup> / <sub>8</sub>
Week ending Aug. 8	4,750	12 <sup>3</sup> / <sub>4</sub>	12 <sup>3</sup> / <sub>4</sub>	850	65 <sup>3</sup> / <sub>4</sub>	62
Week ending Aug. 15	6,350	15 <sup>3</sup> / <sub>8</sub>	12 <sup>3</sup> / <sub>4</sub>	1,100	73	65
Week ending Aug. 22	3,400	15 <sup>1</sup> / <sub>4</sub>	14	300	70	69 <sup>1</sup> / <sub>4</sub>

#### "THE ORIGINAL RUBBER MAN."

THE subject of this sketch was born in the original rubber factory, which is situated in Roxbury, Massachusetts. Like his human prototype he is fearfully and wonderfully made, his body of belting and matting, legs of joint packing, arms of cotton hose, and other ingenious structural details. To be appreciated he should be seen, which can be easily done by turning to the advertisement in this issue, of the Boston Belting Co., who will be glad to send a copy of their hanger, "The Original Rubber Man," in colors, to any one requesting it.

#### VULCANIZED RUBBER CO.'S NEW FACTORY.

THE Vulcanized Rubber Co. expects to get their new factory (at Morrisville, Pa.) in operation about September 1. The corner stone laying of this factory was chronicled in THE INDIA RUBBER WORLD last November, but there have been unavoidable delays in completing the building and installing the machinery. When everything is complete the company will put into commission one of the best built and equipped hard rubber manufacturing plants in existence. The combined boiler capacity is 600 HP., with furnaces operated by forced draught and supplied with patent grates. Brick coal bunkers have been built alongside the boilers and the coal is dumped directly into these from the cars on the company's trestle, this being a part of the arrangement for economy of time and labor that is characteristic of the whole factory.

Most of the machines are driven by specially wound independent motors and the rest are arranged in small groups, each group being driven by a separate motor which drives the shafting by means of a patent noiseless chain gear. These chains are one of the features of the installation, taking the place of all motor and engine belts and gears. The main shaft carrying the heavy rolls is driven by the largest chain drive in existence, being capable of transmitting 200 HP. and connects the engine directly to the shaft, taking the place of the usual noisy gears.

The offices are handsomely finished in natural woods, done in oil. The grounds have been neatly enclosed and will be made into handsome lawns. When the new plant is in operation the old buildings will be abandoned and, with the exception of the brick building, which is the original Morrisville rubber mill will be removed.

The engine room equipment consists of three 240 volt electric generators, two of which are driven by steam turbines and the other by a reciprocating engine (these can be operated together or independent as may be necessary); a 1000 gallon Underwriters fire pump, a 150 HP. Corliss engine for driving the rolls, and another 150 HP. engine for reserve. All exhaust

steam is utilized and all condensation is automatically returned to the boilers. The electric installation is controlled from a switch board located in the engine room.

The buildings are protected by automatic sprinklers, and outside fire plugs supplied by water from the town and the above mentioned pump, taking its water from a basin about 300×125 feet and from 6 to 8 feet deep, which is practically inexhaustible. The employes will be drilled periodically in handling this apparatus. An electric watchman's clock has also been installed. All departments can communicate with each other or the office by means of telephones.

By a complete system of electrically driven fans and piping, the dust from every machine will be automatically collected and deposited in long cloth tubes, thus utilizing the waste and keeping the air clear. The heating will be by means of air heated in coiled pipes by exhaust steam from the engines, and then driven in pipes through the buildings by means of huge fans. Every department has its own toilet and wash rooms. All the machinery has the latest safety appliances and in all ways the comfort of the employes is provided for.

#### RUBBER WORKERS' UNIONS.

LOCAL No. 4, Amalgamated Rubber Workers' Union of America (Trenton, New Jersey).—James O'Donovan, recording and corresponding secretary, has been elected financial secretary of the Central Labor Union. Harry Archer represents the Local in the general committee of the Central Labor Union arranging for the Labor Day celebration on September 7.

#### BANKRUPTCY SCHEDULES OF DRESSER & CO.

SCHEDULES in bankruptcy of Dresser & Co., commission merchants in hosiery, silk, and elastic webbing, Nos. 15-17 Greene street, New York, were filed on August 14. The firm liabilities are \$1,206,481, of which \$488,582 are secured, and the nominal assets \$1,456,160. There are accounts of \$949,623, of which \$685,000 are doubtful and estimated worth \$18,000. The stocks include 247 shares of the Narragansett Web Co. Individual liabilities of D. Le Roy Dresser are \$472,815, and assets \$72,000 in stocks, including 1000 shares of American Webbing and Tubing Co. Individual liabilities of Charles E. Riess, the other partner, are \$135,607, with assets of \$33,437. Among the unsecured firm creditors are the American Tubing and Webbing Co., for \$100,163. The firm's creditors have not yet agreed upon the choice of a receiver, but are expected to do so at their next meeting, on September 22.

#### NEW INCORPORATION.

CONTINENTAL Rubber Works (Erie, Pa.), under Pennsylvania laws, capital, \$200,000. Directors: C. E. Miley, New Haven, Conn.; Alexander Jarecki, Frederick C. Jarecki, H. T. Jarecki, Robert Jarecki, O. E. Becker, E. A. Becker, Charles F. V. Kelly, and Theron R. Palmer. The names of the officers and other details regarding this company appeared in THE INDIA RUBBER WORLD last month.

#### TRADE NEWS NOTES.

THE Philadelphia office of The Diamond Rubber Co. (Akron, Ohio) has been removed to Nos. 304-306 North Broad street.

—The Boston Rubber Shoe Co., on account of the large number of orders, omitted the customary August shutdown this year. The capacity of their two factories is now 332,000 pairs of boots and shoes daily.

—The Plymouth Rubber Co., proofers for the trade and manufacturers of rubber mold work, have broken ground for an addition to their factory (Stoughton, Massachusetts), 60×40 feet, for the use of their rubber heel department. They are also erecting a smoke stack 120 feet high and 6 feet in diameter.

—W. R. Blowers, formerly superintendent of the United and Globe Rubber Manufacturing Cos. (Trenton, N. J.), has accepted a position with the Pennsylvania Rubber Co., and will take the superintendency of their works at Jeannette, Pennsylvania.

—The damage done by fire on June 25 to the rubber factory at Nos. 397-401 Sumner avenue, Brooklyn, New York, though estimated at \$20,000, has been well nigh repaired, the work of rebuilding having been pushed forward rapidly. The plant has long been known as that of the Brooklyn Rubber Co., which name is still retained by the proprietors, Rindskopf Brothers, though they also conduct business under the names Brooklyn Hard Rubber Co. and Brooklyn Shield Co.

—H. A. Palmer has resigned as secretary of the Pennsylvania Rubber Co. (Jeannette, Pa.) and terminated his connection with that company. While not advised as to what will be Mr. Palmer's next connection, THE INDIA RUBBER WORLD understands that he will be identified with the solid rubber tire business, as his five years experience precludes his leaving the field at this very interesting stage of the game.

—The Seamless Rubber Co. (New Haven, Conn.) have awarded a contract for an additional factory building, of brick, 30×95 feet, four stories high.

—Park Mathewson, for some time New York representative of the India Rubber Co. (Akron, Ohio), has become general representative of the International Automobile and Vehicle Tire Co. (Milltown, New Jersey), and assistant to General Manager J. C. Matlock.

—Six shares of Boston Belting Co. stock were reported sold at auction in Boston during the first week in August at 210, par value being \$100.

—People in North Brookfield, Worcester county, Mass., are attempting to secure for that place the location of the proposed factory of the Randolph Rubber Manufacturing Co., the incorporation of which was reported in our last issue.

—Several hundred girls employed in the shoemaking department of the factory of L. Candee & Co. (New Haven, Conn.) went on strike on August 21, giving as their reason that they had been asked to do more work without an increase in pay. At last accounts no agreement had been reached between the company and the employes, who are not, by the way, connected with any labor union.

—The Grieb Rubber Co. (Trenton, New Jersey) have been licensed to manufacture and sell tennis, golf, and yachting soles made with the Foster patented "friction plug."

—The creditors of Lamkin & Foster, the Boston shoe jobbers whose embarrassment has been noted in these columns, have agreed to accept 50 per cent. of their claims in cash or 60 per cent. in notes, the business will be continued—probably under the same name, but as a corporation.

—At a sale of securities at auction in New York on August 26, \$5000 in 6 per cent. first mortgage bonds of the Mechanical Rubber Co. brought \$4750.

—At the coming annual convention of the American Street Railway Association, to be held in Saratoga on September 2-4, the Massachusetts Chemical Co. (Boston) are to be represented and are to give as a souvenir a handsome circular pitcher mat of their own design and manufacture.

—Mr. Eben H. Paine, manager of sales for the United States Rubber Co., Mr. Edward R. Rice, manager of branch stores, and Mr. George W. Perry arrived at home from a six weeks European trip on August 29.

—A correspondent estimates the amount of business done by three rubber heel concerns in the United States at \$275,000 to \$300,000 per year, and the business of the other smaller concerns must amount to a good deal in the aggregate.



## REVIEW OF THE CRUDE RUBBER MARKET.

THE market has been only moderately active of late, but very firm, and an advance in prices is again to be noted, as compared with our last previous report. With regard to the further course of the market, opinion is divided, but there is not apparent any widespread expectation of an early material decline. The "statistical position," indeed, points strongly the other way, though this is not an infallible guide. The rate of consumption for more than a year has been equal to the world's total production, and the visible supply of rubber of all kinds is smaller than for years. But consumption is not a fixed quantity and the high prices now prevailing may reasonably be expected to result in time in a larger output of the raw material. Neither decreased requirements, however, nor larger receipts of rubber seem near at hand.

In the United States, the demand for rubber goods of every kind continues active, and the recent rate of expansion in this respect might come to a stop without by any means indicating a stagnation in industry. Labor troubles in certain quarters that were regarded with some apprehension appear to have passed without disturbing business; the liquidation in the stock market resulting from overcapitalization and excessive speculation seems to have crippled only the manipulators of the "deals"; and the proceeds of the heavy new crops will insure a good buying capacity for another season. For the present the only obstacle in sight to the continued activity of the rubber industry is the check that may come to the buying of its products if the cost of rubber—and of cotton—should continue to advance. The condition of the industry in Europe is favorable generally, with the help of exports to the non manufacturing countries, a field which the rubber trade in the United States has neglected owing to the pressure for goods in an enormous and profitable home market.

The high price of rubber may be expected to stimulate a larger production first in the Amazon states, where two favorable conditions may be noted: Partial recovery from the financial depression of Brazil, and a better state of affairs in the rich rubber districts on the Acre river. But any increase of output could hardly be realized for months to come, and factories supplied with orders must secure rubber now, regardless of price. With regard to other than Pará grades, there appears no promise of increased supplies from the existing sources, and new fields in Africa are developed more slowly than was the case a few years ago. For awhile the combined production of other grades exceeded that of Pará rubber, but for three years past the Pará output again has amounted to more than 50 per cent. of the whole, the African supply having become absolutely as well as relatively less.

Arrivals at Pará from July 1 to August 26 amounted to 2250 tons. The arrivals for the first two complete months of the preceding crop year were 2660 tons, and for July-August, 1901, there were 2550 tons—all inclusive of Caucho. July receipts at Manáos were 614 tons in 1903; 642 in 1902; and 755 in 1901. The Antwerp auctions on August 25 again resulted in an advance, although qualities ruled poor and buying for American account was light.

London prices on August 21: Pará old hard cure and new Bolivian, 4s. 2d. @ 4s. 2½d. [= \$1.01½ @ \$1.02½]. August and September delivery. One lot Ceylon "Pará" sold at 4s. 6d [= \$1.09½]. Sheet Balata unsorted, 2s. 5d. [= 59 cents.] Liberal transactions in Balata reported lately.

Following is a statement of prices of Pará grades, one year ago, on January 1 last, and on August 29—the current date:

PARA.	Sep. 1, '02.	Jan. 1, '03.	Aug. 29.
Islands, fine, new.....	71@72	88@89	96@ 97
Islands, fine, old.....	75@76	91@92	100@101
Upriver, fine, new.....	75@76	90@91	99@100
Upriver, fine, old.....	78@79	95@96	101@102
Islands, coarse, new.....	47@48	60@61	59@60
Islands, coarse, old.....	@	@	@
Upriver, coarse, new.....	60@61	73@74	78@79
Upriver, coarse, old.....	62@63	@	@
Caucho (Peruvian) sheet.....	52@53	59@60	61@62
Caucho (Peruvian) ball.....	56@57	69@70	74@75

The market for other sorts in New York, in which there likewise is an advance to be noted this month, is as follows:

AFRICAN.		CENTRALS.	
Sierra Leone, 1st quality	86 @87	Ikelemba.....	85 @86
Massai, red.....	86 @87	Madagascar, pinky....	82 @83
Benguella.....	70 @71	CENTRALS.	
Cameroon ball.....	64 @65	Esmeralda, sausage....	73 @74
Gaboon flake.....	45 @46	Guayaquil, strip.....	64 @65
Gaboon lump.....	48 @49	Nicaragua, scrap....	72 @73
Niger paste.....	19 @20	Panama, slab.....	56 @57
Accra flake.....	25 @26	Mexican, scrap.....	72 @73
Accra buttons.....	None here	Mexican, siab.....	56 @57
Accra strips.....	None here	Mangabeira, sheet....	54 @55
Lopori ball, prime.....	84 @85	EAST INDIAN.	
Lopori strip, do.....	82 @83	Assam.....	83 @84
		Borneo.....	@

## Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine.....	6\$100	Upriver, fine.....	6\$750
Islands, coarse.....	3\$300	Upriver, coarse.....	5\$050

Exchange, 12½¢ d.

## Last Manáos advices:

Upriver, fine.....	6\$750/4\$850	Upriver, coarse.....	4\$850
--------------------	---------------	----------------------	--------

Exchange, 12½¢ d.

## NEW YORK RUBBER PRICES FOR JUNE (NEW RUBBER).

	1903.	1902.	1901.
Upriver, fine.....	89@93	70@72	87@90
Upriver, coarse.....	70@74	55@56	62@64
Islands, fine.....	85@89	68@70	84@87
Islands, coarse.....	54@57	45@46	47@53
Cametá, coarse.....	56@60	48@52	54@58

## NEW YORK RUBBER PRICES FOR JULY (NEW RUBBER).

	1903.	1902.	1901.
Upriver, fine.....	94@96	70@72	84 @87½
Upriver, coarse.....	74@76	55@56½	61 @63
Islands, fine.....	89@92	67@69	82 @85
Islands, coarse.....	56@58	44@46	46½@48½
Cametá, coarse.....	58@60	46@48	50 @55

## Rubber Scrap Prices.

New York quotations—prices paid by consumers for carload lots—in cents per pound; old shoes are a trifle higher; other items not changed [in cents per pound]:

Old Rubber Boots and Shoes—Domestic.....	6¾ @ 6¾
Do —Foreign.....	6 @ 6½
Pneumatic Bicycle Tires.....	4 @ 4½
Solid Rubber Wagon and Carriage Tires.....	7
White Trimmed Rubber.....	9¼ @ 9½
Heavy Black Rubber.....	4¼
Air Brake Hose.....	2½ @ 3
Fire and Large Hose.....	2½
Garden Hose.....	1½
Matting.....	1

## Bordeaux.

PRICES in francs per kilogram, August 10:

Sierra Leone sorts:		Madagascar.....	5.75@9.
Niggers, red I....	9.40@9.50	Colombia scraps.....	7.40@8.25
Niggers, white....	9.25@9.30	Colombia slabs.....	6.40@7.15
Niggers, red II....	7.39@7.50	Java.....	7.75@8.
Twists.....	7.85@9.10	New Caledonia.....	8. @8.25
Cassamance.....	4.10@8.	Mayumba.....	5.85@6.
Bassam lumps.....	5.20@5.75	Congo flakes.....	2.50@3.50

## Statistics of Para Rubber (Excluding Caucho).

NEW YORK.				
	Fine and Medium.	Coarse.	Total 1902.	Total 1901.
Stocks, June 30.....tons	285	82 =	367	879
Arrivals, July .....	681	261 =	942	448
Aggregating.....	966	343 =	1309	1327
Deliveries, July .....	796	289 =	1085	603
Stocks, July 31.....	170	54 =	224	724
PARÁ.				
	1903.	1902.	1901.	1900.
Stocks, June 30...tons	115	65	37	1320
Arrivals, July.....	1050	1060	1115	330
Aggregating.....	1165	1125	1152	1650
Deliveries, July.....	1030	1085	937	675
Stocks, July 31... ..	135	40	215	975
World's supply, July 31.....tons	1903.	1902.	1901.	1900.
Pará receipts, July 1 to July 31.....	1050	1060	1115	330
Pará receipts of Caucho, same dates.....	230	250	145	
Afloat from Pará to United States, July 31...	394	440	35	
Afloat from Pará to Europe, July 31.....	360	600	632	

## London.

EDWARD TILL &amp; Co. [August 1] report stocks:

LONDON				
	1903.	1902.	1901.	1900.
Pará sorts.....tons	—	—	—	—
Borneo.....	23	130	142	
Assam and Rangoon.....	11	11	63	
Other sorts.....	176	398	522	
Total.....	210	539	727	
LIVERPOOL				
Pará.....	981	1739	932	
Other sorts.....	590	775	1285	
Total, United Kingdom.....	1781	3053	2914	
Total, July 1.....	2235	3595	3128	
Total, June 1.....	2248	3687	3502	
Total, May 1.....	2539	3788	3597	

## PRICES PAID IN JULY.

	1903.	1902.	1901.
Pará fine, hard....	3/11 @4/0 1/2	2/11 1/2 @2/11 1/2	3/6 @3/8
Do soft.....	3/10 @3/11	2/10 1/4 @2/11 1/2	3/7 @3/9
Negroheads, scrappy ..	3/1 @3/1 3/4	2/3 @2/3 3/4	2/6 1/2 @2/7 1/2
Do Islands.....	2/5 @2/6		1/10 1/2 @2/1
Bolivian .....	4/1 1/2 3/-	@3/0 1/4	3/8 @3/9

[\* For Old.]

AUGUST 14.—S. Figgis & Co. report an active market, with advancing prices for fine Pará, and very large transactions. Spot hard cure sold up to 4s. 2d.; very old, 4s. 3d. forward, to 4s. 1 1/2d. near. Entre-fine 3s. 11 3/4d. old spot; 3s. 11d. forward. Soft fine spot, 4s.; forward 3s. 11 1/2d. @ 3s. 11 3/4d. Mollendo, fine 4s @ 4s. 0 1/4d. Negroheads, scrappy 3s. 1 1/2d @ 3s. 2 1/2d. spot; 3s. 2d. forward; Islands, 2s. 5d. All medium kinds (Africans and Centrals) are scarce, and bringing very high prices. Stocks greatly reduced. There have been no auctions this week.

## CEYLON RUBBER AT AUCTION.

July 10.—Five cases sold; fine clean biscuits 4s. 4d.; very fine clean scrap, 3s. 8d.

CIRCULARS to the trade dated August 1 confirm the announcement in the last INDIA RUBBER WORLD of changes in firms of India-rubber merchants. A. B. Bussweiler retires from Alden, Symington & Co., London, and Symington, Bussweiler & Co., Liverpool, the business of which will be continued as heretofore by Adelbert H. Alden and William Symington, under the firm style Alden, Symington & Co., both in London and Liverpool, with correspondents as follows: New York Commercial Co., New York; George A. Alden & Co., Boston; Adelbert H. Alden, Pará and Manaus — Mr. Bussweiler has associated himself with Arthur Meyer, formerly of Reimers & Meyer, of New York and Boston, in a company styled Meyer & Bussweiler, Limited, for the purpose of carrying on business as general merchants, devoting particular attention to India rubber. Offices: 29, Mincing lane, London, E. C., and Union Bank Chambers, Bixteth street, Liverpool.

## Liverpool.

EDMUND SCHLÜTER &amp; Co. report Liverpool stocks:

	June 30.	July 31.
Pará—1st hands..	856	556 tons.
Fine	478	311
Medium	13	3
Negroheads	13	72
Pará—2d hands..	472	425
Fine	145	37
Medium	13	19
Negroheads	13	19
Total Pará.....	1328	981
Peruvians.....		18
Africans.....		108 pkg.
Mollendo.....	358	
Mangabeira.....	18	
Pernambuco.....	18	
Maniçoba.....	*59	
Ceará.....	13	
Assare.....	41	

[\* Tons.]

WILLIAM WRIGHT &amp; Co. report [August 1]:

*Fine Pará.*—The market was strong in the early part of the month, with a good business doing, and prices for old and new Upriver and Islands fine advanced 1d. per pound, but during the latter part of the month, owing to the falling off of the demand from America, prices have remained stationary, and we close quiet but firm; it only requires the demand from America to again spring up, when prices will still further advance.

AUGUST 19.—Market quieter for the past week, in the absence of American demand of importance. Resumption of activity expected in case prices in the United States should advance to over Liverpool parity. Sales at auction to-day included: Sierra Leone niggers, prime, 3s. 6 3/4d. @ 3s. 7d. Sierra Leone twists, 3s. 3d. Gambia seconds, 2s. 3d. @ 2s. 5d. Lahou cake, 2s. 8 1/2d. @ 3s.

SOLOMON KRAMRISCH, of the late firm of Kramrisch & Co., India-rubber merchants of Liverpool, was tried on August 7, at the Northern Assizes of England, on an indictment charging him with the unlawful conversion to his own use of funds belonging to two banking houses, in respect of rubber on which the banks had made advances. The jury, without leaving the box, returned a verdict of "guilty," whereupon the prisoner was sentenced to imprisonment, with hard labor, for twelve months. The failure of Kramrisch & Co., some months ago, involved a deficit of about £100,000.

## Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In keeping with the firmness exhibited by the English market, the sale of July 31 at Antwerp gave very satisfactory results, as regards both prices and quantity sold. Of 497 tons exposed, 462 tons found buyers at an average advance of 1 1/2 per cent. on valuations based on the sale of June 25. The principal lots sold were [prices in francs per kilogram]:

	Sold at.	Valuation.
44 tons Loporé I.....	9.15	9.15
10 " Loporé I.....	9.20	9.20
17 " Loporé II.....	8 17 1/2	7.75
6 " Loporé II.....	8.02 1/2	7.50
20 " Lake Leopold I.....	9.25	8.90
44 " Lake Leopold II.....	7.50 @ 7.60	7.50
17 " Aruwimi.....	8 92 1/2 @ 8.97 1/2	8.50
15 " Upper Congo ordinary.....	9.32 1/2	9.25

Total sales during August amounted to 475 tons. A small sale of 27 tons—mostly thimbles—will be held on August 21. The next regular monthly sale will be held August 25 when 331 tons will be exposed, including the following, for which brokers' valuations are given:

46 tons Uelé strips.....	9.10	45 tons Aruwimi.....	8 60
92 " Uelé strips.....	8.50	26 " Upper Congo ordi-	
		nary .....	8.32 1/2

C. SCHMID &amp; CO.

Antwerp, August 13, 1903.

## RUBBER ARRIVALS AT ANTWERP.

AUGUST 5.—By the *Philippeville*, from the Congo:

Bunge & Co.....	(Société Générale Africaine)	kilos	140,000
Do .....	(Société Isangi)		6,000
Do .....	(Société Anversoise)		63,000
Do .....	(Société "La Kotto")		500
Do .....	(Sultanats du Haut Obangi)		5,000
Société A B I R.....			101,000
Comptoir Commercial Congolais.....			21,000
Société Coloniale Anversoise.....	(Belge du Haut Congo)		1,500
Do .....	(Cie de Lomami)		10,500
Do .....			1,800
Comptoir des Produits Coloniaux.....			2,500
			357,800



## ANTWERP RUBBER STATISTICS FOR JULY.

DETAIL	1901	1902	1903	1904
Stocks, June 30, 1903	477,077	671,070	554,579	721,371
Arrivals, July	365,406	512,836	470,262	657,767
Other sorts	11,111	11,111	11,111	11,111
Aggregating	553,408	1,274,506	1,425,211	1,381,143
Sales, July	475,878	584,734	371,500	471,100
Stocks, July 31	377,527	689,772	1,040,441	1,353,792
Arrivals since Jan. 1	2,070,332	3,237,141	3,552,054	3,117,236
Congo sorts	1,813,800	2,813,800	2,813,800	2,813,800
Other sorts	256,532	423,341	738,254	303,436
Sales since Jan. 1	3,259,010	2,072,581	3,125,052	2,827,551

**A Consul on Rubber Prospects.**

THE United States consul at Pará, Mr. K. K. Kenneday, writing July 7, says, in an official report:

"During the past year prices ruled fairly firm at good figures. The exceedingly high prices which prevailed formerly may never be restored, but producers as well as dealers find there is still a very handsome profit for them, once they have accommodated themselves to the new and more healthy conditions. Never before has so much enthusiasm been shown in the trade, and never before have so many men been employed in the business. Thousands of laborers are pouring into the forests of the interior, and thousands more will follow. New rubber fields will be opened and old ones worked with improved methods and larger forces. As an example of this, I might quote the case of one of the largest rubber producers on the Madeira, who recently informed me that he would take out this year four times as much rubber as ever before. Business is steadily improving here. One encouraging sign of the times is the fact that several new houses are preparing to embark in the export trade. It seems safe to predict that if there are no further political troubles on the upper river, the crop of this season will be far in advance of any ever before known."

**Hecht, Levis & Kahn's Statistics.**

THIS important firm, of Liverpool, London, Paris, and Hamburg, have brought out their annual India-rubber statistical chart for the year ending June 30, 1903, the salient features of which we have compared with their former charts with the results summarized below. Wholly accurate statistics are possible in regard to very few commodities derived from such widely differing sources as India-rubber, and in this case a peculiar difficulty exists on account of the shrinkage which the material continually undergoes. For which reasons the best that can be done is to present approximate figures. The first table compiled from these charts gives the approximate total production and consumption for five years, and the visible supply at the end of each year (in metrical tons):

SEASON	Production	Consumption	Visible Supply *
1902-03	55,603	55,276	5,053
1901-02	53,603	51,170	6,516
1900-01	52,564	51,137	6,441
1899-00	53,347	47,352	7,995
1898-99	52,192	47,783	4,409

\* Including cargo at sea.

There is next shown a comparative statement, for four years, of arrivals in the United States and Europe, the deliveries for consumption, and the reported stocks in those countries:

DETAIL	1901	1902	1903	1904
Stocks, First of year	3,850	6,576	5,918	5,856
Arrivals, Year	51,077	50,170	51,170	51,170
Aggregating	51,027	57,035	51,170	51,170
Deliveries, Year	47,351	51,137	51,170	51,170
Stocks, End of year	6,576	5,918	5,856	3,739

The next table indicates the total arrivals in the United States and in Europe for each year:

SEASON	United States	Europe	Total
1898-99	21,646	28,501	50,147
1899-1900	20,883	30,191	51,077
1900-01	23,017	27,462	50,479
1901-02	21,555	29,566	51,061
1902-03	23,891	29,268	53,159

Finally is shown an analysis of the stocks in the principal markets and afloat, of Pará rubber and all other sorts, at the end of each year:

STOCKS.	June 1900.	June 30, 1901.	June 30, 1902.	June 30, 1903.
<i>Para Grade:</i>				
Liverpool	2,137	1,467	2,448	1,601
Havre	95	70	30	65
New York	601	875	392	383
Pará	195	28	60	129
Afloat	1,099	995	900	1,185
Total	4,127	3,435	3,830	3,363

*Medium Grades*

Liverpool	1,082	946	585	456
London	646	742	560	224
Antwerp	726	954	681	488
Lisbon	717	544	505	220
Rotterdam	....	....	80	56
New York	571	320	575	246
Total	3,742	3,506	2,986	1,690

TOTAL ALL KINDS. . . . . 7,869 6,941 6,816 5,053

**Java Exports—Official.**

[INCLUDING THE ISLAND OF MADURA.]

Year	India-Rubber.	Gutta-Percha.
1893	69,496	39,576
1894	99,280	36,720
1895	90,848	39,848
1896	59,840	3,128
1897	67,728	25,704
1898	78,880	146,744
1899	213,112	646,544
1900	39,168	179,112
1901	34,498	52,360

**Gutta-Percha.**

WILSON & CO. (Rotterdam) report exports from Singapore for the first six months of five years past as follows:

	1899.	1900.	1901.	1902.	1903.
Tons	3348	3219	3126	2490	1704

**IMPORTS FROM PARÁ AT NEW YORK.**

[The Figures Indicate Weights in Pounds.]

**August 3.—By the steamer *Basil*, from Manáos and Pará:**

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total
A. T. Morse & Co.	14,600	600	78,000	7,300=	100,500
Poel & Arnold	14,600	700	41,200	13,200=	69,700
William Wright & Co.	34,400	3,200	21,800	....=	59,400
United States Rubber Co.	35,100	2,300	9,500	....=	46,900
L. Hagenaers & Co.	7,400	....	4,000	....=	11,400
New York Commercial Co.	3,000	1,000	1,000	3,200=	8,200
Hagemeyer & Brunn	3,200	....	1,600	....=	4,800
Herbst Brothers	1,400	....	500	300=	2,200
Total	113,700	7,800	157,600	24,000=	303,100

**August 13.—By the steamer *Gregory*, from Manáos and Pará:**

A. T. Morse & Co.	102,000	14,800	50,800	1,100=	168,700
New York Commercial Co.	76,100	14,200	37,000	....=	127,300
Poel & Arnold	63,900	15,000	24,100	10,500=	113,500
United States Rubber Co.	75,900	6,000	8,000	....=	89,900
William Wright & Co.	13,800	4,600	12,100	1,100=	31,600
L. Hagenaers & Co.	5,000	....	3,600	....=	8,600
Thomsen & Co.	3,400	400	3,600	....=	7,400

Total... 310,100 55,000 139,200 12,700= 547,000

**August 21.—By the steamer *Grangense*, from Manáos and Pará:**

A. T. Morse & Co.	14,000	3,900	136,800	300=	155,000
Poel & Arnold	44,600	22,700	40,900	1,200=	109,400
New York Commercial Co.	42,100	11,700	38,000	600=	92,400
William Wright & Co.	20,500	1,900	21,900	....=	44,300

L. Hageners & Co. ....	11,200	1,100	..=	15,100
Thomsen & Co. ....	5,500	100	..=	9,600
Hagemeyer & Brunn. ....	7,100	1,000	900	9,000
Edmund Reeks & Co. ....	1,300	...	..=	1,700

Total..... 146,300 42,700 24,100 436,500

[NOTE.—The steamer *Bernard*, due at New York, has on board 15 tons of Rubber.]

## PARA RUBBER VIA EUROPE.

**JULY 27.—By the *Umbria*=Liverpool:**  
A. T. Morse & Co. (Fine) ..... 34,000  
Otto Meyer (Fine) ..... 30,000  
Poel & Arnold (Fine) ..... 10,000 74,000

**JULY 30.—By the *Toutou*=Liverpool:**  
George A. Alden & Co. (Fine) ..... 34,000  
George A. Alden & Co. (Coarse) ..... 11,000  
Poel & Arnold (Fine) ..... 34,000  
Otto Meyer (Fine) ..... 23,000 102,000

**JULY 31.—By the *Carpathia*=Liverpool:**  
George A. Alden & Co. (Fine) ..... 18,000

**AUGUST 1.—By the *Zeland*=Antwerp:**  
A. T. Morse & Co. (Fine) ..... 16,000

**AUGUST 4.—By the *Seguntina*=Mollendo:**  
Chicago Bolivian Rubber Co. (Fine) ..... 6,000  
Chicago Bolivian Rubber Co. (Coarse) ..... 2,000 8,000

**AUGUST 8.—By the *Philadelphia*=London:**  
Poel & Arnold (Coarse) ..... 22,500

**AUGUST 10.—By the *Fennia*=Antwerp:**  
A. T. Morse & Co. (Fine) ..... 18,000

**AUGUST 15.—By the *Campania*=Liverpool:**  
Poel & Arnold (Fine) ..... 100,000

## OTHER ARRIVALS AT NEW YORK

### CENTRALS.

**JULY 25.—By the *Havana*=Mexico:**  
Thebaud Bros. .... 2,000  
Samuels & Cummings ..... 1,500  
L. N. Chemedlin & Co. .... 500  
H. Marquardt & Co. .... 400  
Louis Levy ..... 200 4,600

**JULY 27.—By the *Tennison*=Bahia:**  
J. H. Rossbach & Bros. .... 59,000  
F. B. Rosa & Co. .... 5,000 64,000

**JULY 27.—By the *Comus*=New Orleans:**  
A. T. Morse & Co. .... 2,000  
Manhattan Rubber Mfg. Co. .... 1,500  
G. Amsinck & Co. .... 600 4,100

**JULY 28.—By the *Alliance*=Colon:**  
G. Amsinck & Co. .... 3,600  
Isaac Brandon & Bros. .... 2,100  
Andreas & Co. .... 1,500  
E. B. Strout ..... 800  
Lawrence Johnson & Co. .... 700  
Eggers & Heinlein ..... 900 9,000

**JULY 30.—By the *Carib II*=Truxillo:**  
Eggers & Heinlein ..... 11,000  
J. W. Wilson & Co. .... 2,500  
G. Amsinck & Co. .... 1,500  
H. W. Peabody & Co. .... 1,500 16,500

**AUG. 3.—By the *Tintoretto*=Bahia:**  
J. H. Rossbach & Bros. .... 22,500

**AUG. 4.—By the *Segurana*=Colon:**  
A. Santos & Co. .... 4,300  
Hirzel, Fellman & Co. .... 3,200  
American Trading Co. .... 2,400  
Meyer Hecht ..... 2,800  
Piza, Nephews & Co. .... 2,300  
H. Marquardt & Co. .... 2,000  
G. Amsinck & Co. .... 1,900  
Lawrence Johnson & Co. .... 1,400  
Roldan & Van Sickle ..... 1,600  
Isaac Brandon & Bros. .... 1,100  
A. N. Rotpolz ..... 1,000  
Fidanque Bros. & Co. .... 1,000  
Assensio & Cassio ..... 800  
Dumcrest & Co. .... 800  
W. R. Grace & Co. .... 600  
W. Louiza & Co. .... 400  
Jimenez & Escobar ..... 400  
Louis A. Levy ..... 300  
E. N. Tibbals & Co. .... 200  
R. G. Barthold ..... 200  
Barbling & DeLeon ..... 100  
For Antwerp ..... 3,100 31,500

**AUG. 7.—By the *Germanie*=Liverpool:**  
Poel & Arnold ..... 2,300

**AUG. 5.—By the *Adirondack*=Savanilla:**  
G. Amsinck & Co. .... 2,000  
Kunhardt & Co. .... 2,000

### AFRICANS—Continued.

**JULY 27.—By the *Umbria*=Liverpool:**  
A. T. Morse & Co. (Fine) ..... 34,000  
Otto Meyer (Fine) ..... 30,000  
Poel & Arnold (Fine) ..... 10,000 74,000

**JULY 30.—By the *Toutou*=Liverpool:**  
George A. Alden & Co. (Fine) ..... 34,000  
George A. Alden & Co. (Coarse) ..... 11,000  
Poel & Arnold (Fine) ..... 34,000  
Otto Meyer (Fine) ..... 23,000 102,000

**JULY 31.—By the *Carpathia*=Liverpool:**  
George A. Alden & Co. (Fine) ..... 18,000

**AUGUST 1.—By the *Zeland*=Antwerp:**  
A. T. Morse & Co. (Fine) ..... 16,000

**AUGUST 4.—By the *Seguntina*=Mollendo:**  
Chicago Bolivian Rubber Co. (Fine) ..... 6,000  
Chicago Bolivian Rubber Co. (Coarse) ..... 2,000 8,000

**AUGUST 8.—By the *Philadelphia*=London:**  
Poel & Arnold (Coarse) ..... 22,500

**AUGUST 10.—By the *Fennia*=Antwerp:**  
A. T. Morse & Co. (Fine) ..... 18,000

**AUGUST 15.—By the *Campania*=Liverpool:**  
Poel & Arnold (Fine) ..... 100,000

**JULY 25.—By the *Havana*=Mexico:**  
Thebaud Bros. .... 2,000  
Samuels & Cummings ..... 1,500  
L. N. Chemedlin & Co. .... 500  
H. Marquardt & Co. .... 400  
Louis Levy ..... 200 4,600

**JULY 27.—By the *Tennison*=Bahia:**  
J. H. Rossbach & Bros. .... 59,000  
F. B. Rosa & Co. .... 5,000 64,000

**JULY 27.—By the *Comus*=New Orleans:**  
A. T. Morse & Co. .... 2,000  
Manhattan Rubber Mfg. Co. .... 1,500  
G. Amsinck & Co. .... 600 4,100

**JULY 28.—By the *Alliance*=Colon:**  
G. Amsinck & Co. .... 3,600  
Isaac Brandon & Bros. .... 2,100  
Andreas & Co. .... 1,500  
E. B. Strout ..... 800  
Lawrence Johnson & Co. .... 700  
Eggers & Heinlein ..... 900 9,000

**JULY 30.—By the *Carib II*=Truxillo:**  
Eggers & Heinlein ..... 11,000  
J. W. Wilson & Co. .... 2,500  
G. Amsinck & Co. .... 1,500  
H. W. Peabody & Co. .... 1,500 16,500

**AUG. 3.—By the *Tintoretto*=Bahia:**  
J. H. Rossbach & Bros. .... 22,500

**AUG. 4.—By the *Segurana*=Colon:**  
A. Santos & Co. .... 4,300  
Hirzel, Fellman & Co. .... 3,200  
American Trading Co. .... 2,400  
Meyer Hecht ..... 2,800  
Piza, Nephews & Co. .... 2,300  
H. Marquardt & Co. .... 2,000  
G. Amsinck & Co. .... 1,900  
Lawrence Johnson & Co. .... 1,400  
Roldan & Van Sickle ..... 1,600  
Isaac Brandon & Bros. .... 1,100  
A. N. Rotpolz ..... 1,000  
Fidanque Bros. & Co. .... 1,000  
Assensio & Cassio ..... 800  
Dumcrest & Co. .... 800  
W. R. Grace & Co. .... 600  
W. Louiza & Co. .... 400  
Jimenez & Escobar ..... 400  
Louis A. Levy ..... 300  
E. N. Tibbals & Co. .... 200  
R. G. Barthold ..... 200  
Barbling & DeLeon ..... 100  
For Antwerp ..... 3,100 31,500

**AUG. 7.—By the *Germanie*=Liverpool:**  
Poel & Arnold ..... 2,300

**AUG. 5.—By the *Adirondack*=Savanilla:**  
G. Amsinck & Co. .... 2,000  
Kunhardt & Co. .... 2,000

**JULY 27.—By the *Umbria*=Liverpool:**  
A. T. Morse & Co. (Fine) ..... 34,000  
Otto Meyer (Fine) ..... 30,000  
Poel & Arnold (Fine) ..... 10,000 74,000

**JULY 30.—By the *Toutou*=Liverpool:**  
George A. Alden & Co. (Fine) ..... 34,000  
George A. Alden & Co. (Coarse) ..... 11,000  
Poel & Arnold (Fine) ..... 34,000  
Otto Meyer (Fine) ..... 23,000 102,000

**JULY 31.—By the *Carpathia*=Liverpool:**  
George A. Alden & Co. (Fine) ..... 18,000

**AUGUST 1.—By the *Zeland*=Antwerp:**  
A. T. Morse & Co. (Fine) ..... 16,000

**AUGUST 4.—By the *Seguntina*=Mollendo:**  
Chicago Bolivian Rubber Co. (Fine) ..... 6,000  
Chicago Bolivian Rubber Co. (Coarse) ..... 2,000 8,000

**AUGUST 8.—By the *Philadelphia*=London:**  
Poel & Arnold (Coarse) ..... 22,500

**AUGUST 10.—By the *Fennia*=Antwerp:**  
A. T. Morse & Co. (Fine) ..... 18,000

**AUGUST 15.—By the *Campania*=Liverpool:**  
Poel & Arnold (Fine) ..... 100,000

### AFRICANS—Continued.

**JULY 27.—By the *Umbria*=Liverpool:**  
Poel & Arnold ..... 7,000  
Rubber Trading Co. .... 5,000 12,000

**JULY 30.—By the *Toutou*=Liverpool:**  
George A. Alden & Co. .... 22,500  
Poel & Arnold ..... 5,500 28,000

**JULY 31.—By the *Carpathia*=Hamburg:**  
Otto Meyer ..... 9,000

**AUG. 1.—By the *Zeland*=Liverpool:**  
Poel & Arnold ..... 14,000  
George A. Alden & Co. .... 5,000  
A. T. Morse & Co. .... 3,000 22,500

**AUG. 7.—By the *Germanie*=Liverpool:**  
Poel & Arnold ..... 8,000  
A. T. Morse & Co. .... 2,500 10,500

**AUG. 8.—By the *Prins Sigismund*=Hamburg:**  
Rubber Trading Co. .... 2,000  
Otto Meyer ..... 18,000  
Joseph Cantor ..... 4,000  
George A. Alden & Co. .... 3,000  
H. A. Gould Co. .... 4,000 49,000

**AUG. 10.—By the *Cedre*=Liverpool:**  
George A. Alden & Co. .... 68,000  
A. T. Morse & Co. .... 23,000  
Poel & Arnold ..... 5,500 96,500

**AUG. 10.—By the *Prins Sigismund*=Hamburg:**  
A. T. Morse & Co. .... 10,000

**AUG. 12.—By the *Pennsylvania*=Hamburg:**  
Rubber Trading Co. .... 22,500  
Poel & Arnold ..... 19,000 41,500

**AUG. 13.—By the *Marquette*=Liverpool:**  
United States Rubber Co. .... 15,000

**AUG. 18.—By the *Vadrolia*=Antwerp:**  
A. T. Morse & Co. .... 120,000  
William Wright & Co. .... 58,000  
Rubber Trading Co. .... 18,000  
Poel & Arnold ..... 13,000  
Joseph Cantor ..... 9,000 198,000

**AUG. 19.—By the *Germanie*=Liverpool:**  
Poel & Arnold ..... 11,000

**AUG. 20.—By the *Patricia*=Hamburg:**  
Otto Meyer ..... 24,000  
George A. Alden & Co. .... 13,000  
Rubber Trading Co. .... 6,000  
Joseph Cantor ..... 6,500 49,500

### EAST INDIAN.

**AUG. 3.—By the *Sagami*=Singapore:**  
Robert Branss & Co. .... 7,000

**AUG. 3.—By the *Moltke*=Hamburg:**  
Poel & Arnold ..... 13,000

**AUG. 3.—By the *New York*=London:**  
Poel & Arnold ..... 11,000

**AUG. 5.—By the *Marquette*=London:**  
Robert Branss & Co. .... 18,000

**AUG. 8.—By the *Philadelphia*=London:**  
Poel & Arnold ..... 26,000

**AUG. 12.—By the *Nubia*=Singapore:**  
Winter & Smilie ..... 17,000  
D. P. Cruikshank ..... 11,500 28,500

**AUG. 22.—By the *New York*=London:**  
Poel & Arnold ..... 5,500

### PONTIANAK.

**AUG. 3.—By the *Sagami*=Singapore:**  
Robert Branss & Co. .... 200,000  
George A. Alden & Co. .... 20,000 500,000

**AUG. 12.—By the *Umbria*=Singapore:**  
For Boston ..... 45,000

### GUTTA-PERCHA AND BALATA.

**JULY 30.—By the *Toutou*=Liverpool:**  
Earle Brothers ..... 2,000

**JULY 30.—By the *Grand Wilderssee*=Hamburg:**  
To order ..... 6,500

**AUG. 12.—By the *Pennsylvania*=Hamburg:**  
To order ..... 6,500

**AUG. 18.—By the *Hudson*=Singapore:**  
W. R. Russell & Co. .... 27,000  
To order ..... 23,000 50,000

### BALATA.

**JULY 27.—By the *Anchora*=Glasgow:**  
Earle Brothers ..... 4,000



July 7.—By the <i>Massachusetts</i> =London:	
Earle Brothers.....	3,000
H. A. Gould Co.....	3,000
At.....	
By the <i>Ullonia</i> =Liverpool:	
Poel & Arnold.....	1,000
George A. Alden & Co.....	2,500

Exports:	
India-rubber.....	36,900
Reclaimed rubber.....	141,490
Rubber Scrap Imported.....	1,743,341

July 13.—By the <i>Michigan</i> =Liverpool:	
Poel & Arnold—African.....	4,637
July 18.—By the <i>Ullonia</i> =Liverpool:	
George A. Alden & Co.—African....	1,590
July 20.—By the <i>Ullonia</i> =Liverpool:	
Poel & Arnold—African.....	31,202
July 20.—By the <i>Cambrion</i> =London:	
George A. Alden & Co.—East Indian	13,134
July 24.—By the <i>Saxonia</i> =Liverpool:	
George A. Alden & Co.—African....	90,60
July 28.—By the <i>Pinemore</i> =Antwerp:	
George A. Alden & Co.—African....	67,294

## CUSTOM HOUSE STATISTICS

## BOSTON ARRIVALS.

Imports:	POUNDS.	VALUE.
India-rubber.....	40,348	\$2,673,268
Gutta-percha.....	69,464	29,46
Gutta-jelutong (Pontianak).....	58,221	14,817
Total.....	167,167	\$2,717,551

July 6.—By the <i>Anglian</i> =London:	POUNDS.
George A. Alden & Co.—East Indian	8,379
July 7.—By the <i>New England</i> =Liverpool:	
George A. Alden & Co.—African....	14,571
July 7.—By the <i>Konstantin</i> =Antwerp:	
George A. Alden & Co.—African....	9,451
Total.....	240,863

[Value, \$176,749.]

## JULY EXPORTS OF INDIA-RUBBER FROM PARA (IN KILOGRAMS).

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Frank da Costa & Co.....	60,820	5,154	91,145	300	157,422	30,794	3,204	27,808	—	61,806	219,228
Emok, Schrader & Co.....	14,420	340	34,040	—	39,400	82,110	8,670	49,440	300	140,520	179,920
Adelbert H. Alden.....	17,960	5,040	17,530	404	41,294	8,290	20,950	6,622	74,072	115,366	115,366
R. Suarez & Co.....	—	—	—	—	—	53,091	15,042	3,303	748	72,184	72,184
De la Croun & Co.....	25,931	4,870	21,191	552	52,544	818	162	—	—	980	53,524
Neale & Staats.....	3,564	331	26,860	—	31,060	7,728	504	632	—	8,864	39,924
Kanthack & Co.....	—	—	—	—	—	1,562	683	8,937	22,286	33,468	33,468
Pires, Teixeira & Co.....	11,013	464	6,152	—	17,629	6,172	—	2,359	—	8,531	26,160
Sundry small shippers.....	4,452	352	3,186	—	7,990	6,684	813	8,049	—	15,551	23,541
Direct from Iquitos.....	—	—	—	—	—	6,632	2,323	2,079	112,628	123,662	123,662
Direct from Manáos.....	168,544	27,534	27,976	28,777	252,831	42,038	5,164	11,658	69,841	128,641	381,472
Total for July.....	297,004	44,090	228,953	30,093	600,170	275,839	44,800	135,215	212,425	668,279	1,268,449
Total for January-June.....	1,073,517	1,038,149	2,726,135	1,036,078	8,873,879	4,803,518	589,529	1,328,363	2,282,155	9,003,565	17,877,444
TOTAL SINCE JANUARY 1.....	1,370,521	1,082,239	2,955,118	1,066,171	9,474,049	5,079,357	634,329	1,463,578	2,494,580	9,671,844	19,145,893

## OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
June, 1903.....	3,352,998	212,908	3,140,090	June, 1903.....	4,441,808	2,061,360	2,380,448
January-May.....	25,215,766	1,355,007	23,860,759	January-May.....	24,886,400	17,354,512	7,531,888
Six months, 1903.....	28,568,764	1,567,915	27,000,849	Six months, 1903.....	29,328,208	19,415,872	9,912,336
Six months, 1902.....	27,142,999	1,852,299	25,290,699	Six months, 1902.....	26,287,968	15,150,688	11,137,280
Six months, 1901.....	31,788,882	1,677,533	30,111,349	Six months, 1901.....	26,976,656	15,482,880	11,493,776
GERMANY.				ITALY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
June, 1903.....	2,298,120	596,200	1,701,920	June, 1903.....	87,340	67,980	19,360
January-May.....	16,059,120	6,089,820	9,969,300	January-May.....	812,020	26,400	785,620
Six months, 1903.....	18,357,240	6,686,020	11,671,220	Six months, 1903.....	899,360	94,380	804,980
Six months, 1902.....	16,475,140	6,280,560	10,194,580	Six months, 1902.....	767,800	75,240	692,560
Six months, 1901.....	14,039,960	3,951,420	10,088,540	Six months, 1901.....	794,640	92,840	701,800
FRANCE.				AUSTRIA-HUNGARY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
June, 1903.....	1,522,460	730,400	792,060	June, 1903.....	209,880	—	209,880
January-May.....	6,804,160	3,577,180	2,924,680	January-May.....	1,294,700	12,320	1,282,380
Six months, 1903.....	8,326,560	4,609,880	3,716,680	Six months, 1903.....	1,504,580	12,320	1,492,260
Six months, 1902.....	8,955,320	4,361,280	4,594,040	Six months, 1902.....	1,408,880	6,820	1,402,060
Six months, 1901.....	9,056,080	5,530,800	3,525,280	Six months, 1901.....	1,132,340	19,360	1,112,980
BELGIUM.							
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.				
June, 1903.....	1,691,255	912,806	780,449				
January-May.....	6,557,089	4,902,936	1,654,153				
Six months, 1903.....	8,256,347	5,815,742	2,440,605				
Six months, 1902.....	7,683,867	5,551,060	2,132,807				
Six months, 1901.....	7,644,743	6,337,122	1,307,621				

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

\* General Commerce

† Special Commerce.

WILLIAM T. BAIRD, PRESIDENT

ROBERT B. SAIRD, VICE PRESIDENT

# RUBBER TRADING COMPANY

38 MURRAY STREET

NEW YORK

TELEPHONE: 1924 CORTLANDT

161 SUMMER STREET

BOSTON

TELEPHONE: 1599-2 OXFORD

CABLE ADDRESS: CHAUNBAIR, NEW YORK AND BOSTON

# CRUDE RUBBER

*Mention The India Rubber World when you write.*



The special Rubber Makers' brand of  
**PICHER SUBLIMED  
WHITE LEAD**



for rubber compounding means satisfaction in every particular.



100 WILLIAM STREET,  
NEW YORK.

**PICHER LEAD COMPANY,**

TACOMA BUILDING,  
CHICAGO.



*Mention The India Rubber World when you write.*





Best Made.

*Mention The India Rubber World when you write.*

# HOLDEN, LEONARD & Co.,

72 LINCOLN ST. BOSTON.

Rain-proof  
Cloths  
in large variety  
of fabrics and  
styles.



New plant  
completed.  
Cloths treated  
for the  
trade.

CORRESPONDENCE INVITED.  
*Mention The India Rubber World when you write.*

# Milford Rubber Company,

**PROOFING HEADQUARTERS** for

**TRIPLEX GOODS** such as **COTTON COVERTS DUCKS**, etc. Also all kinds of **DOUBLE AND SINGLE TEXTURE GOODS** skirt bindings, etc. : : :

Office: No. 65 ESSEX STREET, BOSTON.

Factory: Milford, Mass.

*Mention The India Rubber World when you write*

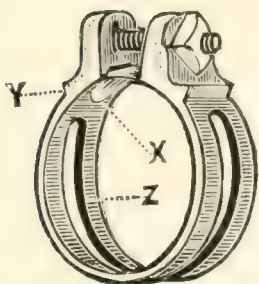
# Conant Rubber Co.,

## DRESS SHIELDS, NURSERY and HOSPITAL SHEETING.

Offices; No. 170 PURCHASE STREET, BOSTON.

Factory: SOUTH FRAMINGHAM, MASS.

*Mention The India Rubber World when you write.*



**Yerdon's Improved  
Double Hose Band....**

**SIMPLE, STRONG, SURE.**

Send for Sample and Prices.

**WILLIAM YERDON, - Fort Plain, N. Y.**

*Mention The India Rubber World when you write*

**"ALL ABOUT INDIA-RUBBER AND GUTTA-PERCHA"**

PUBLISHED BY FERGUSON, IN CEYLON.

\$1.75, prepaid, at THE INDIA RUBBER WORLD office.

# PROOFERS OF CLOTH FOR THE TRADE.

# MOULD AND PRESS WORK.

**PLYMOUTH RUBBER CO.**  
STOUGHTON, MASS.

Manufacturers of "NERV-EZE" whole and lift Heels.  
*Mention The India Rubber World when you write.*

ESTABLISHED 1875

# MATTSON RUBBER CO.

No. 26 West Broadway, New York

MANUFACTURERS OF

Dress Shields and Dress Shield Materials

Stamp Rubbers and Sponge Backing

Hat Bags and Hat Manufacturers Rubber Supplies

Erasive Rubbers

*All kinds of MOULD WORK*

Mixing and Calendering for the Trade

*Mention The India Rubber World when you write*

# The Atlas Chemical Co.

NEWTONVILLE, MASS.

MANUFACTURERS OF

# SULPHURET OF ANTIMONY

FOR THE RUBBER TRADE.

*Mention the India Rubber World when you write*



THE **MASON**

# Reducing Valves

ARE THE WORLD'S STANDARD VALVES.

For automatically reducing and absolutely  
maintaining an even steam or air pressure.

*They are adapted for every need and guaranteed  
to work perfectly in every instance.*

WRITE FOR FULL INFORMATION AND  
LITERATURE SPECIMEN.

**THE MASON REGULATOR CO. Boston,  
Mass., U.S.A.**

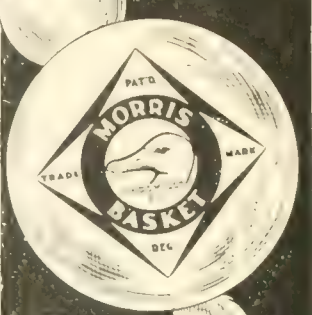




# LIGHTNESS

THE Morris Spring Bottom Duck Basket is the Lightest, Strongest and Most Durable basket on the market. A test in your mill will show this to be a fact. Baskets to fit special places, or for special purposes, made to order at reasonable prices. Mill baskets and trucks a specialty. Book-let and prices on request. Address Dept. 10.

**MORRIS & CO.,**  
Manufacturers Grovesville Mills Cotton Duck      YARDVILLE, N. J.



## THE MARINE IRON WORKS



build powerful driving machinery for light draft Stern Wheel River Steamers, such as are most suitable for exploring the streams used in gathering India-rubber. The firm makes a specialty of this class of work. It also makes a specialty of building Knock Down River

Steamers which they construct up to a carrying capacity of 150 tons.

**STATION A, CHICAGO, ILL., U. S. A.**

*Mention The India Rubber World when you write.*

## William R. Thropp,

Manufacturer of

Rubber Washers, Grinders and Refiners.

Automatic Jar Ring Lathes.

Hydraulic Steam Presses, Vulcanizers.

Moulds and Special Machinery.

Bicycle Tire Moulds a Specialty.

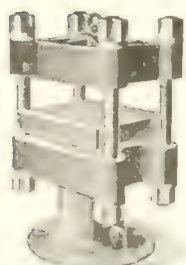
**TRENTON, N. J., U. S. A.**

*Mention The India Rubber World when you write.*

## MOULDS

Especially Vehicle Tire Moulds

ALSO



Hydraulic and Hand Presses,  
Ring and Disc Cutting Machinery,  
Tubing Machines, etc.

**THE WILLIAMS FOUNDRY AND MACHINE CO.,**

**Akron, Ohio.**

*Mention The India Rubber World when you write.*

## W. B. SMITH WHALEY & CO., Mechanical and Mill Engineers,

1012 TREMONT BUILDING,  
BOSTON, MASS.

1328 MAIN STREET,  
COLUMBIA, S. C.

**ELECTRIC POWER TRANSMISSION A SPECIALTY.**

Parties interested in electric driven machinery

are invited to correspond with our Boston Office.

*Mention The India Rubber World when you write.*

## Embossing Calenders

- - FOR - -

Artificial Leather, Table Oil Cloth  
and Carriage Covers.

## Drying Machines

with Copper Cylinders for Cotton Duck,  
Drills and Sheeting.

**THE TEXTILE-FINISHING MACHINERY CO.,**  
PROVIDENCE, R. I.

*Mention The India Rubber World when you write.*

## The Tropical Agriculturist.

PUBLISHED MONTHLY BY

A. M. & J. FERGUSON, COLOMBO, CEYLON.

ALL about Tea, Coffee, Cacao, Lard, Turpentine, Cotton, Cinchona, Sugar, Liberian Coffee, India-rubber, Cinnamon, Cassia, Cocoanuts, Palmira and other Palm Trees, Aloes and other Fibre Plants, Rice, Fruit Trees, Vegetables, Citronella and other Grasses yielding Essential Oils, Gum, and other Tropical Products.

Rates of Subscription for America, including Postage.

YEARLY, \$5 50. IN ADVANCE, \$4 50.

HALF YEARLY, \$3 00. " " \$2 50.

The whole sixteen volumes published can be had for \$88.

## The Ceylon Observer

CIRCULATES throughout the Island of Ceylon, and in Southern India. Its Over-land Edition circulates extensively in Great Britain and Ireland. Annual subscription \$15.00, Cheque and Cash, Weekly, \$8.00. The Advertising Rates are moderate. Special quotations given for Trade Announcements, appearing for a series of insertions.

Maps of Ceylon and Estate, Ceylon Directory, Planting Manuals, etc. Cheques should be drawn in favor of the MANAGER, Ceylon Observer.

*Mention The India Rubber World when you write.*

# RUBBER GOODS

HARD RUBBER GOODS

COTTON RUBBER LINED  
HOSE

LINEN HOSE

Office and Factory  
TRENTON, N. J.

MECHANICAL  
RUBBER  
GOODS

NEW YORK OFFICE  
80 Reade St.

CHICAGO OFFICE  
17 La Salle St.

## JOS. STOKES RUBBER CO.



# THE NEW CENTURY RUBBER CO.

MANUFACTURERS OF

## Reclaimed Rubber

**Facilities:** New factory: machinery, our own design. **Quality:** We claim flexibility, strength and durability. The results of twenty-five years' practical experience. We guarantee our product to be absolutely free from ingredients that are in any way detrimental to the life of manufactured rubber goods.

### WORKS:

EAST BURLINGTON, N. J.

Address all communications to office:

515 DREXEL BUILDING, PHILADELPHIA, PA.

*Mention The India Rubber World when you write.*

ESTABLISHED 1848.

## TOCH BROTHERS,

468-470-472 WEST BROADWAY, - NEW YORK CITY.

FACTORY: LONG ISLAND CITY.

MANUFACTURERS OF

## Rubber Colors, Pigments and Chemicals

BRILLIANT TILE RED

GREEN for cold and hot cure

BALLOON RED

BLACKS

TILE YELLOW

KINGS YELLOW

WHITES

YALE BLUE

TRUE BLUE

MAROON

ERASER COLORS

BOLIVIAN RUBBER GUM

ANTIMONY SUBSTITUTE No. 504

SPECIAL COLORS FOR TILES.

If you want any special color made to order, communicate with us. If you are interested, send to us for copy of the "Chemistry of Colors," which will be mailed to you gratis.

*Mention The India Rubber World when you write.*

## RUBBER FLUX.

OUR Rubber Flux works as its name suggests. It fluxes refractory mill-stocks, increases their capacity for pigment absorption and assists milling to a remarkable degree.

It *prevents blooming* and does not sweat or blow.

Pronounced by experts the most useful and economical rubber substitute ever produced. Has been thoroughly tested and is generally used. Samples sent on application. Address "Rubber Dept."

MASSACHUSETTS CHEMICAL CO.,

170 SUMMER STREET, BOSTON, MASS., U. S. A.

*Mention The India Rubber World when you write.*

## “SPECIAL”

## Zinc Oxide

for the

## Rubber Trade.

The New Jersey Zinc Company,

11 BROADWAY,

NEW YORK.

*Mention The India Rubber World when you write.*

# TYPKE & KING, INDIA RUBBER CHEMISTS, ETC.

OFFICES: 16, MINCING LANE, LONDON, E. C., ENGLAND.

JOSEPH CANTOR, AGENT IN U. S. WALLACE BUILDING, 56-58 PINE ST., NEW YORK.

## RUBBER SUBSTITUTES,

MADE FROM RUBBER, LATE SEED OIL. FREE FROM ACID.

FINE CHEMICALS FOR RUBBER WORKING, GUARANTEED RELIABLE, AND NOT TO VARY.

## CRIMSON & GOLDEN SULPHURETS OF ANTIMONY.

Mention The India Rubber World when you write.

# PURE SOFT SULPHUR

ESTABLISHED 1841.

INCORPORATED 1897

**Bergen Port  
Sulphur Works**

ORIGINAL MANUFACTURERS  
OF

**PURE SOFT SULPHUR**

PREPARED ESPECIALLY FOR

Rubber Manufacturers.

T. & S. C. WHITE CO.,  
28 Burling Slip, NEW YORK.

Mention The India Rubber World when you write.

# BENZOL

HEADQUARTERS FOR  
**ALL GRADES**  
of Coal Tar Naphtha and  
Benzol.

Samples and prices on application.

CHEM. DEPT.,  
BARRETT MFG. CO.,  
Philadelphia.

# SULPHUR


BROOKLYN SULPHUR WORKS,  
Manufacturers of

Double Refined and Sublimed  
**FLOUR SULPHUR**

Especially adapted to the use of  
RUBBER MANUFACTURERS

AND WARRANTED FREE FROM GRIT.

**BATTELLE & RENWICK**  
163 Front St., New York.

First Qualities.  Brand.

## CRIMSON and GOLDEN SULPHURETS OF ANTIMONY

Always contains same constant percentage  
of Free Sulphur.

Action Ges. Georg Egestorff's Salzwerke,  
Linden, near Hanover, Germany.

Mention The India Rubber World when you write.

## New Process Pitch from Long Leaf Pine

10 GRADES  
Light Amber, Dark,  
Black

Absolutely free from  
Pyroligneous Acid

Send for Mail Samples

E. B. WEED & CO., Fayetteville, North Carolina.

Mention The India Rubber World when you write.

## Chemical Analysis of

Crude materials and Rubber Compounds; Insulating, Waterproofing, Hose,  
Tires, Shoes, Heels, Gaskets, Mats, Bands, Packing, Belting, Unvulcanized, Vul-  
canized, Sulphur. Mineral fillers determined. Substitute. Reclaimed Rubber  
stock. [Member Am. Chem. Soc.; M. S. C. I., London; M. D. C. Gesell, Berlin.]

**DURAND WOODMAN, Ph. D.;**

ANALYTIC AND TECHNICAL CHEMIST,

127 PEARL STREET,

NEW YORK

Mention The India Rubber World when you write.

**H. L. TERRY,**

Fellow of the Institute of Chemistry.

Analytical and Consulting Chemist.

Is open to be consulted on all matters relating to the  
technology of India-rubber, and to conduct Analyses  
of Rubber Goods.

LABORATORY:

23 HOPWOOD AVE.,  
MARKET PLACE,

MANCHESTER, ENGLAND.

# FOSSIL FLOUR

For reducing cost of

**RUBBER COMPOUNDS**  
and improving quality of products.  
Samples and information free.

THE FOSSIL FLOUR COMPANY

229 PEARL STREET,  
NEW YORK.

# SUBSTITUTES

and RUBBER MANUFACTURERS  
SUPPLIES.

THE STAMFORD RUBBER SUPPLY CO.,  
STAMFORD, CONN.

P. CARTER BELL, General Manager.

W. F. GILLESPIE, Treasurer

Mention The India Rubber World when you write.



Established 1880

---

Philadelphia  
Rubber Works  
Reclaimed  
Rubber

Philadelphia  
U. S. A.

---

Foreign Representatives:

For Great Britain

Kuhn & Co.,

31, Lombard Street, London, E. C.

For the Continent

H. P. Moorhouse,

29, Rue des Petites-Écuries, Paris.

# PEQUANOC RUBBER CO.

MANUFACTURERS OF

## Pure Reclaimed Rubber

by an improved mechanical process, without the use of acids, or alkalies. A strictly high-grade superior product, absolutely bone dry, clean and reliable at all times.

Factory and Office: **BUTLER, NEW JERSEY.**

Telephone: 16 Butler.

SAMPLES AND PRICES ON APPLICATION.

*Mention The India Rubber World when you write*

## RAYMOND RUBBER CO.,

MANUFACTURERS OF

NEW YORK OFFICE.

64 STONE STREET.

## RECLAIMED RUBBER,

OFFICE AND FACTORIES, TITUSVILLE, NEW JERSEY.

## NEW JERSEY RUBBER COMPANY,

MANUFACTURERS OF ALL KINDS OF

## RECLAIMED \* RUBBER,

Auxiliary Plant for Trimmings, daily Capacity of 20,000 Pounds. Total daily Capacity 45,000 Pounds.

Office and Factories, **LAMBERTVILLE, NEW JERSEY.**

*Mention The India Rubber World when you write.*

## ORIGINAL IDEAS

Applied to

Rubber Moulds, Matrixes, Special Machines,

- - and - -

Mechanical Problems in  
Rubber Factories.

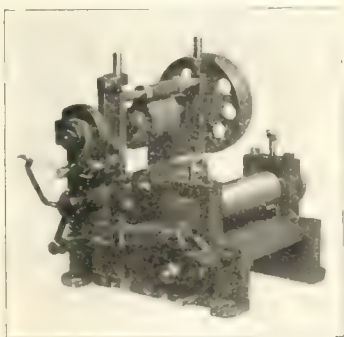
Fine Work a Specialty.

Customers all over  
the World.

Excelsior  
Machine Works,

R. H. PROBERT, Proprietor,

AKRON, OHIO.



AUTOMATIC CUTTER FOR RUBBER TUBING.

*Mention The India Rubber World when you write*

## Recording Thermometers FOR Vulcanizers.



No. 300

Made with extensions to go through wall of vulcanizer and register without the opening of door.

Manufactured exclusively by

**HELIOS-UPTON CO.,**

PEABODY, MASSACHUSETTS.

*Mention the India Rubber World when you write*



ESTABLISHED 1856.

# WILLIAM SOMERVILLE'S SONS,

3, COOPERS ROW,  
LIVERPOOL, ENGLAND.

118-120 JOHN STREET,  
NEW YORK, U. S. A.

DEALERS IN ALL KINDS OF **SCRAP RUBBER.**

CABLE ADDRESS: LIVERPOOL MAYFLOWER.  
NEW YORK SOMERVILLE.

CODES: A. B. C.  
LIEBERS.

*Mention The India Rubber World when you write.*

# E. BERS & CO.,

ESTABLISHED 1890.

CABLE ADDRESS:

BERSANDO, PHILA.

CODES, A B C, 4TH ED., AND PRIVATE.

COMMISSION MERCHANTS AND DEALERS IN

NEW YORK HOUSE,  
10 1/2 DESBROSSES ST.

# SCRAP RUBBER,

FOREIGN AND DOMESTIC CORRESPONDENCE SOLICITED.

22 AND 24 So. DELAWARE AVE., PHILA.

*Mention The India Rubber World when you write.*

# WM. H. CUMMINGS & SONS

## BUY AND SELL RUBBER WASTE.

Cable Address, P. O. Box 732.  
UNITMOSQUE

54-56 Harrison Street, New York, U. S. A.

*Mention The India Rubber World when you write.*

# THEODORE HOFELLER & CO.,

Nos. 98, 100 and 102 TERRACE, BUFFALO, N. Y., U. S. A.

FOREIGN AND DOMESTIC CORRESPONDENCE SOLICITED.

Cable Address, HOFELLER, BUFFALO.

A. B. C. and Lieber's Codes Used.

# LARGEST DEALERS IN OLD RUBBER IN THE WORLD.

*Mention The India Rubber World when you write.*

# S. BIRKENSTEIN & SONS

BUY AND SELL

All kinds of RUBBER SCRAP

48-50-52 Michigan St., CHICAGO

*Mention The India Rubber World when you write.*

# SALOMON BROS. & CO.,

99 NASSAU STREET, NEW YORK.

All kinds of RUBBER SCRAP,

Boots and Shoes, Solid and Pneumatic Tires,

Air Brake Hose, Buffers, Heavy Rubber.

*Mention The India Rubber World when you write.*

# PHILIP McGRORY,

TRENTON, N. J.

Wholesale Dealer in SCRAP RUBBER.

THE HIGHEST CASH PRICE PAID FOR NEW AND OLD, CURED AND UNCURED

SCRAP RUBBER OF ALL KINDS.

Second-Hand Rubber Mill Machinery Bought and Sold.

*Mention The India Rubber World when you write.*



# JENKINS BROTHERS' VALVES.

Perfectly tight under all pressures of steam, oils or acids.  
Warranted to give satisfaction under the worst conditions.

Received the **GOLD MEDAL** at the Pan-American Exposition.

Insist on having the genuine stamped with Trade Mark.  
JENKINS BROTHERS, New York, Boston, Philadelphia, Chicago.

# RUBBER SCRAP

Bought and Sold By

# W. C. COLEMAN CO.,

154 WEST BROADWAY, NEW YORK,  
Factory Waste a Specialty.

THEO. S. BASSETT, President.  
MAX LOEWENTHAL, Treasurer.

R. A. LOEWENTHAL, Vice President.  
WALTER T. ROSEN, Secretary.

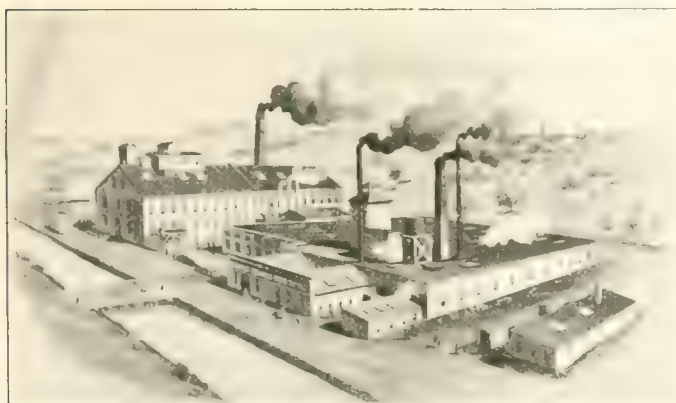
# U. S. RUBBER RECLAIMING WORKS.

## Manufacturers of RECLAIMED RUBBER.

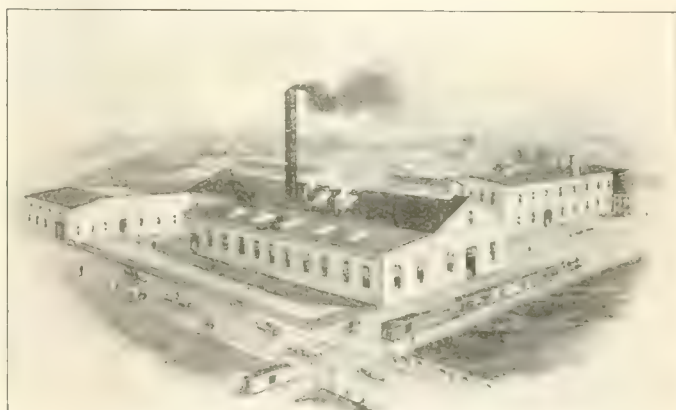
Offices: No. 127 DUANE STREET, NEW YORK.



FACTORY AT BUFFALO, N. Y.



FACTORY No. 1, SHELTON, CONN.



FACTORY No. 2, SHELTON, CONN.

NEW ENGLAND REPRESENTATIVE:

OTTO MEYER, No. 161 Summer Street, Boston.

FOREIGN REPRESENTATIVES:

WM. SOMERVILLE'S SONS, 3, Cooper's Row, Liverpool, England.

Great Britain and the Continent of Europe.

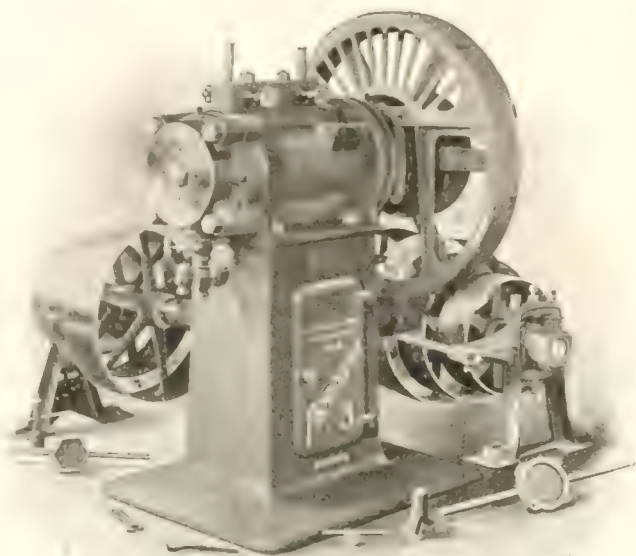
G. BRICE, 92, Rue de la Victoire, Paris, France.

Seul Agent Dépositaire. France and Belgium.

*Mention The India Rubber World when you write.*



# RUBBER TUBING WORK



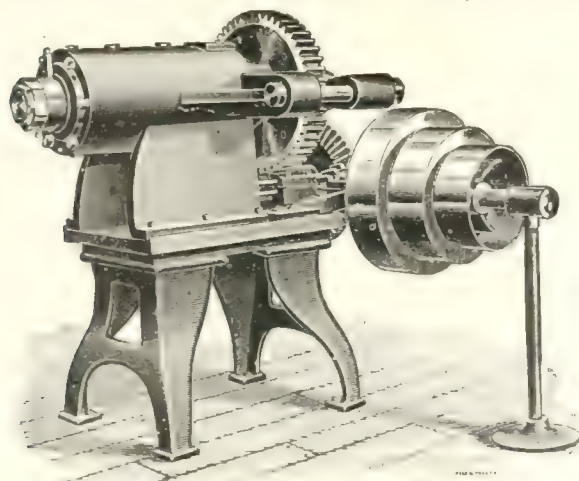
most nearly approaches perfection in our Perfected Tubing machines. These machines are notable both for the perfection of their work and their great capacity. One of them will equal in output a half-dozen ordinary machines, and with output a vital factor in the competition for business they become great profit earners.

**JOHN ROYLE & SONS, Paterson, N. J., U. S. A.**

*Mention The India Rubber World when you write*

## CLARK'S Reliable Tubing Machine

FOR THE MANUFACTURE OF RUBBER TUBING AND CORD,  
And also the Covering of Electrical and Telephone Cables.



MANUFACTURED IN 4 SIZES BY

**EDRED W. CLARK, MACHINIST,**

Rubber Moulds and Rubber Machinery, Screw and Hydraulic Presses a Specialty.

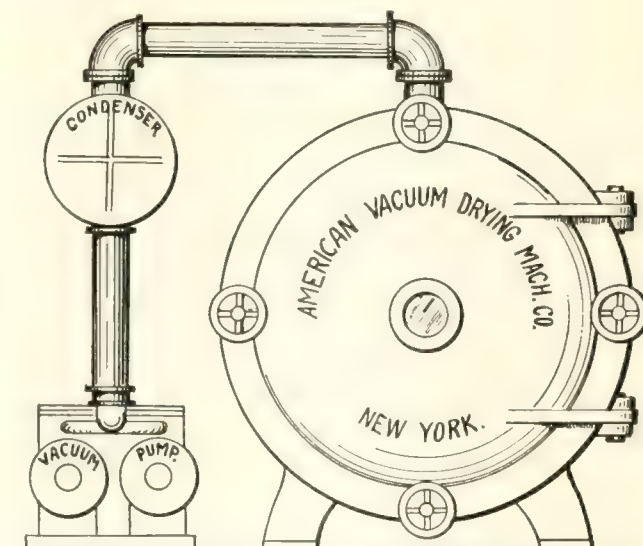
**No. 31 WELLS STREET, HARTFORD, CONN.**

*Mention The India Rubber World when you write*

## VACUUM DRYING MACHINES.

Sheet and Shoddy Rubber and Chemicals can be Dried in a Few Hours at Low Temperature. No Oxidation, Burning or Melting of the Material.

Large Drying Capacity of Several Charges per Day. Exhaust Steam or Hot Water for Heating. No other Drying System so Economical in the Saving of Time, Space, Steam, and of Capital invested, owing to the rapidity of this drying process.



**AMERICAN VACUUM DRYING MACHINE CO.,**

Office: 120 LIBERTY ST., N. Y. CITY.

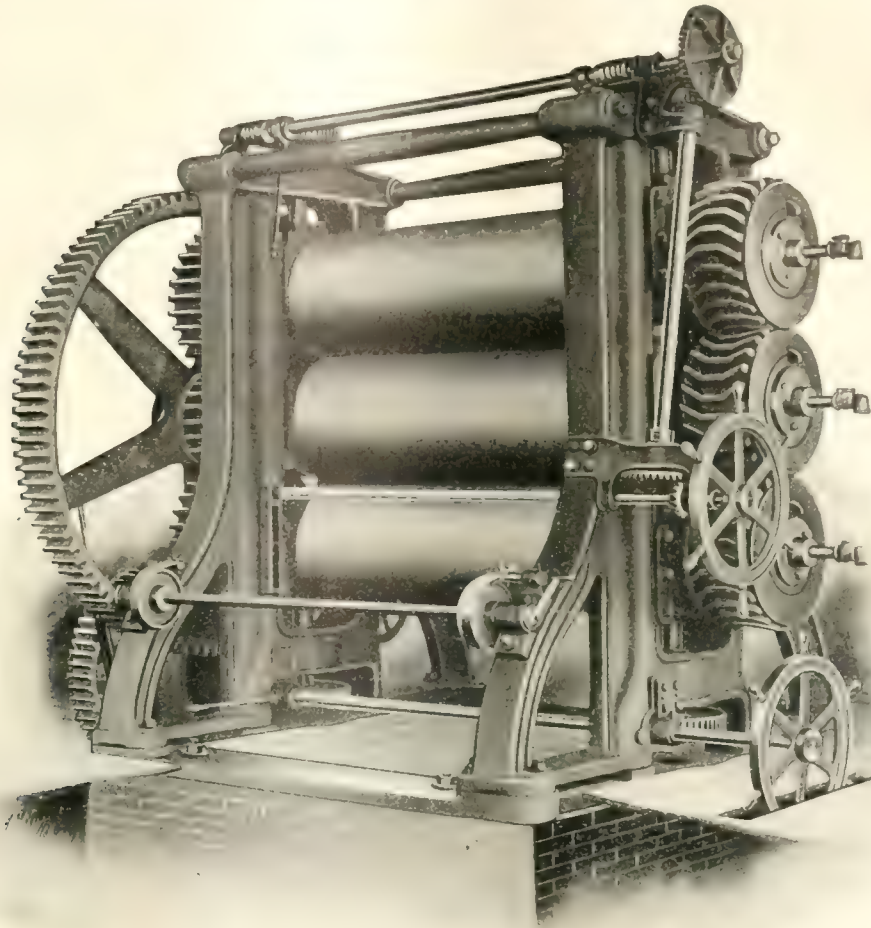
**WARNING: INFRINGEMENTS ON OUR PATENTS WILL BE PROSECUTED.**

*Mention The India Rubber World when you write.*

# BIRMINGHAM IRON FOUNDRY

DERBY, CONN., U. S. A.

Oldest and Largest Makers of RUBBER MILL MACHINERY in the United States.



THREE ROLL CALENDER.

**CALENDERS - GRINDERS - MIXERS**  
**WARMERS - WASHERS - REFINERS**  
**HYDRAULIC PRESSES - HOSE MACHINERY**  
**SPECIAL MACHINERY**

*Mention The India Rubber World when you write.*



# AMERICAN TOOL & MACHINE CO.

109 BEACH ST.

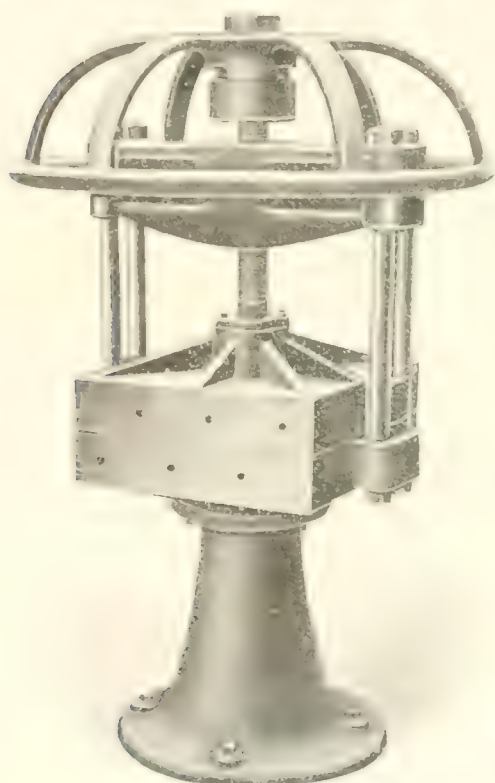
BOSTON MASS.

## Double and Single End Spreaders, Doubling Machines, Churns, Etc.

WRITE FOR CATALOGUE AND PRICES.

*Mention The India Rubber World when you write.**Mention The India Rubber World when you write.*

### 20 x 20 HAND PRESS



Note  
Improved  
Hand  
Wheel,  
also  
Rigid Base.

We make  
various kinds  
of improved  
Rubber  
Working  
Machinery.  
Particulars  
if you  
please.

A. ADAMSON,  
AKRON, O.

*Mention The India Rubber World when you write.*

Handwork is costly  
and inaccurate.

Anything that the hands can do  
can be done by Machinery.

No Problem is too Difficult for us.

Do you want a Machine for any  
Purpose in Rubber Work?

Write to us and we will Produce it.

WELLMAN SOLE CUTTING MACHINE CO.,  
MEDFORD, MASSACHUSETTS.

A. M. SIDNEY, President.

EDWARD BROOKS, Treasurer.

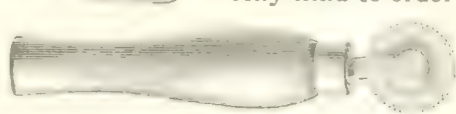
*Mention The India Rubber World when you write.*

HAND ROLLERS, Metal or Rubber.



HAND STITCHERS,  
DOUBLE, SINGLE,  
PLAIN and FANCY.  
Any kind to order.

CALENDAR ROLL  
ENGRAVING,  
MOLDS, etc.



CUTTING DIES, ALL KINDS.

The HOGGSON & PETTIS MFG. CO.,  
NEW HAVEN, CONN., U. S. A.

*Mention The India Rubber World when you write.*

### STEAM PRESS

FOR

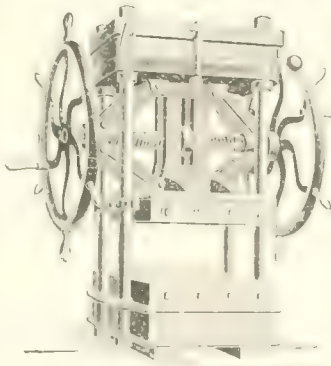
Mechanical Goods.

HYDRAULIC  
OR  
KNUCKLE JOINT.

Write for Prices.

Boomer & Boschert Press Co.,  
336 West Water St.,

SYRACUSE, N. Y.

*Mention The India Rubber World when you write.*

ESTABLISHED 1848.

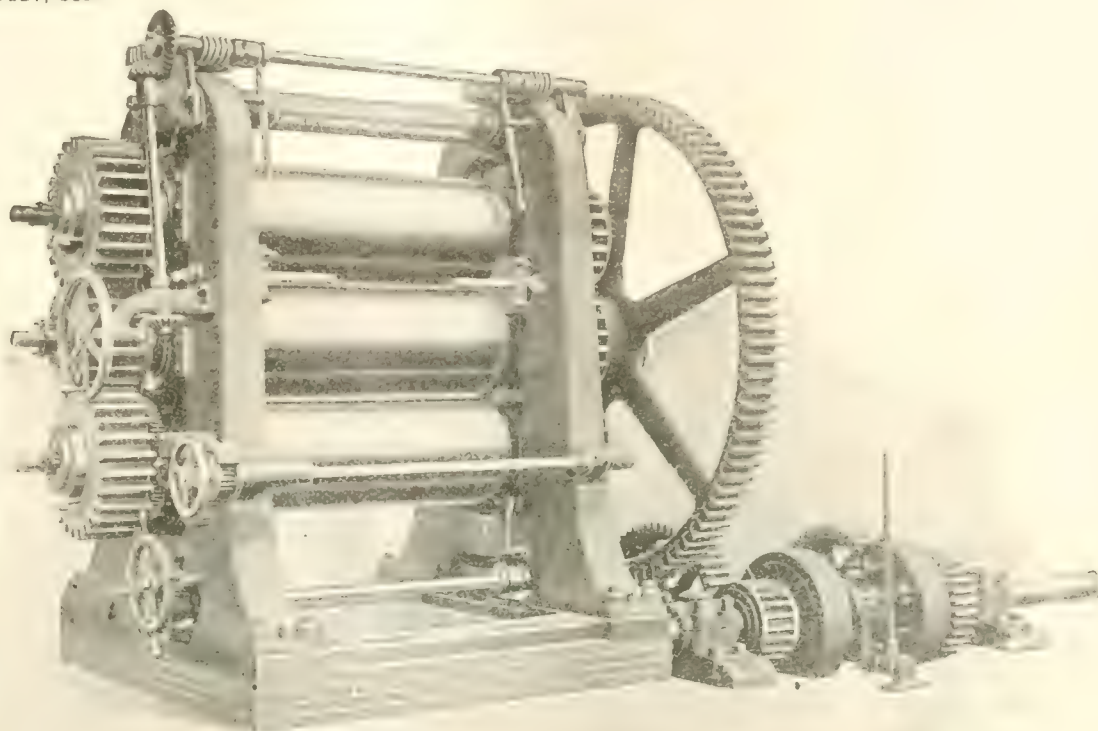
# Farrel Foundry and Machine Co.,

Largest Manufacturers in the World of \_\_\_\_\_

## Rubber Machinery.

FRANKLIN FARREL, PRES.  
CHARLES F. BLISS, TREAS  
FRANK E. HOADLEY, SEC

ANSONIA, CONN., U. S. A.



STANDARD THREE ROLL CALENDER.

CALENDERS, GRINDERS, MIXERS, CRACKERS, WASHERS,  
WARMERS and REFINERS.

HYDRAULIC BELT PRESSES, with Hydraulic Stretchers,  
MULTIPLE HEEL and SCREW PRESSES, PUMPS,  
ACCUMULATORS and FITTINGS.

---

LINOLEUM MACHINERY—Calenders, Grinders, Mixers, etc.  
Cabling, Winding, Spooling and Measuring Machines for Insulated Wire.  
Chilled Iron and Sand Rolls of all sizes, Steel and Wrought Iron Rolls.  
Shafting, Machine Moulded Gearing, Friction Clutches, etc.



**\$1,500,000****TEN YEAR 6% FIRST MORTGAGE SINKING FUND****GOLD BONDS OF****THE CONSOLIDATED UBERO PLANTATIONS COMPANY****DUE JULY 1, 1912****INTEREST PAYABLE JAN. 1 AND JULY 1****PRINCIPAL AND INTEREST PAYABLE AT THE****INTERNATIONAL TRUST COMPANY, BOSTON****Bonds issued in Coupon Form With Privilege of Registration as to Principal. Each \$500 Bond Carries with it \$400 of Stock****AS A BONUS****DIRECTORATE**ARTHUR W. STEEDMAN, *President*, Of the firm of George A. Alden & Co., Importers of Crude Rubber, Boston, Mass.FREDERIC C. HOOD, *Vice President*, Treasurer of the Hood Rubber Co., Boston, Mass.HON. U. Z. WILEY, *Treasurer*, Chief Justice of the State Appellate Court of Indiana, Indianapolis, Indiana.WILLIAM D. OWEN, *Director*, Ex-Secretary of State of Indiana, Indianapolis, Indiana.SEÑOR THOMAS MORAN, *Director*, Member of the House of Deputies, and Director of the New York Life Insurance Co. in Mexico, Mexico City, Mexico.HON. LIC. ALZONO MARISCAL, *Director*, Prominent Attorney and Financier; Son of the Vice President of the Republic, Mexico City, Mexico.CHARLES A. MUEHLBRONNER, *Director*, Proprietor Iron City Produce Co., Importers of Foreign Fruits, Director German National Bank and Western Savings Bank, Pittsburgh, Pa.

**I**N order that the bond holders and stockholders may have as wide a representation as possible, an Advisory Board, composed of twenty-one representative business men, has been formed. These gentlemen will pass upon all questions of importance and make such recommendations to the Board of Directors as may seem warranted in each case.

Five Hundred Thousand Dollars (\$500,000) of this allotment of bonds, is offered for cash and the remaining One Million Dollars (\$1,000,000) on 45 monthly payments. Each payment as made, is secured by issuing to the purchaser a 6 per cent. First Mortgage Sinking Fund Gold Note. These notes recite upon their face that when a purchaser has \$500 worth of them he may exchange them for One (1) \$500 6 per cent. First Mortgage Gold Bond at the INTERNATIONAL TRUST COMPANY, Boston, and receive, at the time of exchange, an equal bonus of stock.

The business of the Company is the growing and marketing of all tropical products, including Oranges, Lemons, Grape and other Citrus Fruits, Yucca, Coffee, Rubber, Pineapples, etc.

The bonds and notes are secured by a First Mortgage upon all the assets of the Company, real and personal, including 6000 acres of land, 1600 of which is under cultivation; a General Store, Merchandise, Residences, Administration Building, Starch Mill, Pineapple Cannery, Tin Can Factory, Bank, Laborer's Quarters, Warehouses, Live Stock, Mules, Cattle, etc., etc., together with all the necessary equipment and machinery to carry on the business of the Company.

**The present actual cash value of the property is \$1,011,062.50.** The money realized from the sale of bonds now offered will be used for further development and acquisitions. The property is located in the richest agricultural district of Mexico, on the Tehuantepec National Railroad, equi-distant from the Gulf of Mexico and the Pacific Ocean.

Yearly Estimated Profits: Guaranteed Interest on Bonds 6 per cent.; Estimated Earning on Stock 3 per cent.; Total 9 per cent. As more development is made and as more crops come into bearing each year, it is confidently expected that the earnings will gradually increase.

We desire to call attention to the fact that the management of THE CONSOLIDATED UBERO PLANTATIONS COMPANY has financed a number of similar propositions in the past. Notably among these are UBERO PLANTATION COMPANY OF INDIANAPOLIS, now in its fourth year and which has paid successively 10, 15 and 20 per cent. the last three years. Also, THE UBERO PLANTATION COMPANY OF BOSTON, which paid a 10 per cent. dividend December 31, 1901, and has declared a dividend of 10 per cent., payable December 31, 1902. Both of these properties are contiguous to those of this Company.

The proposition to the public is a very simple one. You purchase of the Company one bond for each \$500. You can make this purchase for cash or at the rate of \$5 or more per bond, per month. The Company gives you a First Mortgage upon all of its assets, real and personal, to secure whatever money you invest in its bonds. These bonds are due in ten years, but as 70 per cent. of the net earnings each year are paid to the INTERNATIONAL TRUST COMPANY, Boston, Mass., for the redemption of the bonds, some bonds will be redeemed on the first day of each January. This is decided by lot so that your bond may be redeemed on the first day of any January. With each \$500 bond which you purchase, **the Company gives you \$400 of stock as a bonus**, so that when your bond has been redeemed, you still have your investment in the Company represented by your bonus of stock, *which has not cost you a single cent of your own money.* The stock issued as a bonus to the bond purchasers is now earning 3 per cent., and naturally participates more largely in the earnings of the Company after the bonds have been paid, because none of the profits of the Company will then be required to pay interest on the bonds. So that, if no further development was made this same stock will then earn 9 per cent. This, however, must of necessity increase as new crops come into bearing.

For further information, prospectus, copy of legal opinion as to the validity of issue of these bonds, or for blank forms of application, apply in person or by letter to

**THE CONSOLIDATED UBERO PLANTATIONS COMPANY,****No. 89 STATE STREET, BOSTON, MASS.**

# THE FAULTLESS RUBBER COMPANY

AKRON, OHIO, U. S. A.

HIGH GRADE

## Seamless and Seamed Rubber Goods

of every description.

SUNDRIES,

NOVELTIES,

and TOILET ARTICLES.



"AMERICAN" PURE RUBBER SPONGES.

# THE CAMP RUBBER COMPANY

General Offices, AKRON, O., U. S. A.

Factories, ASHLAND, O., U. S. A.

DRUGGISTS' SUNDRIES,

TOYS and SPORTING GOODS.

A NEW and COMPLETE LINE.

EXCEPTIONAL FACILITIES FOR THE ECONOMICAL PRODUCTION OF  
ALL KINDS, HOLLOW and SOLID, MOULD WORK.



ADDRESS ALL COMMUNICATIONS TO AKRON, OHIO.

*Mention The India Rubber World when you write.*



# RUBBER SUBSTITUTE

The best that's made for use in the manufacture of  
Mechanical Rubber Goods, Insulating Wire, Rubber Clothing, Bicycle Tires, Linoleum.  
 and all kinds of mould work.

**THE GLUCOSE SUGAR REFINING CO.,** Manufacturers.  
 THE ROOKERY, CHICAGO, ILLINOIS.

*Mention The India Rubber World when you write.*

## RUBBER PLANTATIONS IN THE Land of Manatee

will prove the greatest dividend earners of the century. The Seaboard discovered this fact and the Land of Manatee simultaneously in 1902.

The Manatee is below the frost line and there are numerous rubber trees now there known to be forty years of age. They grow luxuriantly, of great size in both a wild and cultivated state. If you are looking for a profitable investment and can command capital, write for additional information regarding rubber growing in the Land of Manatee.

**We back every advertisement with actual facts.**

**J. W. WHITE,**  
 General Industrial Agent, Portsmouth, Va.  
 SEABOARD AIR LINE RAILWAY.

*Mention The India Rubber World when you write.*

When so much is being said both pro and con, regarding rubber growing, it is particularly fortunate that the real facts can be given from an unbiased and reliable point of view.—*From a Rubber Plantation Manager.*

## Rubber Planting

on the

Isthmus of Tehuantepec

A Record of an Examination  
 of Typical Plantations

By HENRY C. PEARSON

Editor of "The India Rubber World"

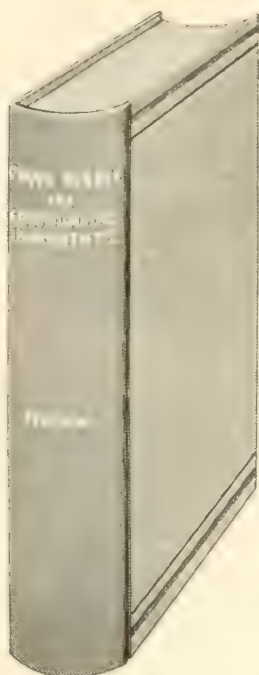
**A** REPRINT of Mr. Pearson's letters in the May, June, July, and August issues of the "India Rubber World." Describing in detail the journey to the Isthmus, climate, natives, plantations, methods of planting, soils,—successes and failures, etc., etc. Illustrated by forty-six fine half tones from photographs not before published.

**Price 50 cents, postpaid.**

INDIA RUBBER PUBLISHING CO.

No. 150 Nassau Street, New York

*Mention The India Rubber World when you write.*



**PRICE \$10.**  
**PREPAID.**

## Crude Rubber and Compounding Ingredients.

A Text Book of Rubber Manufacture.

BY CECILY C. PEARSON.

It is often a convenience to have at hand, in convenient form, a reference, a book that will remind a man of something which he needs to make use of in his business, without waiting to raise a question for it no matter how well he may have learned it. "Crude Rubber and Compounding Ingredients" has been designed to serve just such a purpose. In fact the book was a compilation of a manuscript reference book originally compiled by the author for his personal use. Finding how convenient it was to turn to such a book, instead of having to depend on memory alone for the information it contained, the idea suggested itself that possibly others interested in the rubber industry might find these notes equally serviceable, and this is why they have been developed into a book. The reception of the book has been encouraging, and it may interest some who do not yet possess a copy of the book to know how some practical rubber workers regard it.

A superintendent writes: "It is a work that I want on my desk all the time, as it is surprising how often one wants to refer to it."

The manager of an important concern writes of the book: "Its value has grown on me; I now keep it by me in the factory and use it constantly, both for reference and suggestion."

THE INDIA RUBBER PUBLISHING CO.,  
No. 150 Nassau Street, - - - New York.



**SPECIALLY ADAPTED**  
**for all purposes in**

## Rubber Manufacturing

State your **REQUIREMENTS** and  
we will be pleased to give you the  
results of our 15 years experience.

**HOHMANN & MAURER MFG. CO.,**  
**ROCHESTER, N. Y., U. S. A.**

Send for Illustrated Catalogue R.

London: 57 D, Hatton Garden, E. C. New York: 85 Chambers St.  
Chicago: 119 Lake St.

## WE would like you to see the WESTERN UNION RUBBER CODE

IT COSTS \$10.00

You can get almost any other code  
for less, but we are presuming you  
want the best.

SAMPLE PAGES FREE

**INTERNATIONAL CABLE DIRECTORY COMPANY**

Chesebrough Building, 17 State St., NEW YORK  
Salisbury House, London Wall, LONDON, E. C.

Mention The India Rubber World when you write.

## RUBBER AND COFFEE LANDS.

THE Mexican Land and Colonization Company owns several hundred thousand acres of land suitable for Rubber and Coffee in the State of Chiapas, Mexico. The majority of the coffee plantations in Soconusco now producing largely were originally purchased from this Company also La Zacualpa and other rubber plantations.

For further particulars apply to

**O. H. HARRISON,**

Spreckels Annex, 713 Market Street, SAN FRANCISCO.

Mention the India Rubber World when you write.

## Mexican Lands.

TO individual purchasers or plantation companies I will sell at rock bottom prices Rubber and Tropical Plantation lands in the states of Vera Cruz, Oaxaca, Tabasco, and Chiapas, in tracts to suit, from 1,000 to 1,000,000 acres. All statements as to title and value guaranteed.

I have 1,000,000 acres of heavily timbered rubber lands that I can subdivide if desired, in the heart of the Rubber, Mahogany, Cedar, and Tropical Woods country on the largest river in Mexico, with a magnificent saw milling and manufacturing site. It is proposed to cut off the timber,—taking care of the Rubber trees now growing and planting new ones, that will in a few years make a magnificent rubber forest at practically no cost. Address—

**J. J. FITZGERRELL, 1a. San Francisco, No. 7, Mexico City, Mexico, or**

**M. M. FITZGERRELL, 810 Olive Street, St. Louis, Missouri.**

Mention The India Rubber World when you write.



**J. H. LANE & CO.,**

BOSTON.

CHICAGO.

110 WORTH ST., NEW YORK.

PHILADELPHIA.

LONDON.

HOSE  
BELT  
SAIL  
WIDE**DUCKS**PAPER FELTS  
OUNCE GOODS  
ARMY DUCK  
OSNABURGS**AUTOMOBILE  
AND BICYCLE****TIRE FABRICS**SHEETINGS AND DRILLS. SEA ISLAND, EGYPTIAN, AND PEELER YARNS,  
AND FABRICS IN REGULAR AND SPECIAL CONSTRUCTION.*Mention The India Rubber World when you write.***CATLIN & CO.,** 345-347 BROADWAY  
NEW YORK

SOLE SELLING AGENTS

**UNITED STATES COTTON DUCK CORPORATION**

FOR

BRANDS: **HOSE and**  
"Mt. Vernon"  
"Woodberry"  
"Aretas"  
"Yellow Jacket"  
"Laurel"  
"Franklinville" **BELTING**  
**DUCKS**Yarns. Hose Cord, Sheetings, Drills, Osnaburgs,  
Tire Fabrics of every Description.*Mention The India Rubber World when you write.***Vulcanizers of all sizes,**  
**CALENDERS, GRINDERS, MIXERS AND WASHERS,**  
Hydraulic and Screw Presses,  
Hydraulic Pumps and Accumulators.**THOS. F. STEVENSON,**  
120 LIBERTY ST., NEW YORK.Correspondence solicited. Several second-hand Calenders and  
Grinders for sale.*Mention The India Rubber World when you write.***BONNER MANUFACTURING CO.,**  
MANUFACTURERS  
OF ALL GRADES **RUBBER SUBSTITUTES.**

GOODS MADE TO ORDER A SPECIALTY.

OFFICE: No. 89 State Street,

BOSTON, MASS.

*Mention The India Rubber World when you write.***YOU CAN  
CUT  
THE TIME OF DRYING RUBBER  
IN TWO**

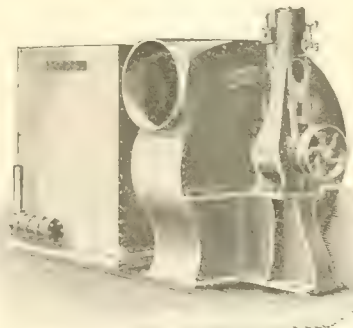
BY USING THE

**STURTEVANT SYSTEM**

B. F.

**Sturtevant  
Company,**

BOSTON, MASS.

NEW YORK,  
PHILADELPHIA  
CHICAGO,  
LONDON.

139

*Mention The India Rubber World when you write.*

## Publishers' Page



OFFICES:

No. 150 NASSAU ST., NEW YORK

*Rubber Planting in Tehuantepec.*

THE series of letters by the Editor of THE INDIA RUBBER WORLD, recording his observations in the rubber planting belt in Mexico, have been reprinted from the pages of this Journal in a neatly bound little booklet, and can be supplied from this office at 50 cents each, postpaid, and at a reduced price for quantities. This office is in receipt of many letters from rubber plantation managers and others familiar with conditions in Mexico, expressing warm appreciation of these letters.

*Wants the Letters in Book Form.*

MY DEAR MR. PEARSON: I have just completed reading with a great deal of interest and considerable amusement your very interesting "First Letter" on your trip to Mexico. I shall certainly anxiously await letter No. 2, and hope to have it in the June number. Your description of the difficulties and experiences generally encountered are typically what I encountered myself on my first trip. I have been to Mexico many times since, but I have neither read nor seen anything that has brought my first trip to mind so vividly as reading your article. I would respectfully suggest that this be gotten out in book form - - - If it ever is, kindly see that I become possessed of a copy, and oblige,

Yours very truly, WM. E. RYDER,

Secretary and General Manager Mexican Development Co., Ltd.,  
Oshkosh, Wisconsin, May 17, 1903.

*Repaid by a Casual Reading.*

"I BEG to acknowledge the receipt of your publication, 'Crude Rubber and Compounding Ingredients', and I feel repaid many times for the investment, with only a casual reading."—*From a Planter in Southern man.*

*A Reliable Publication.*

INDIA RUBBER PUBLISHING Co.—*Gentlemen:* Enclosed please find certified check for \$3 in payment for one year's subscription to THE INDIA RUBBER WORLD.

As we are vitally interested in the rubber industry, I feel that there is no more reliable publication than yours to which to go for general information on this topic. With best regards I beg to remain, Yours very truly,

THE MONTEZUMA RUBBER PLANTATION CO.,

By E. D. P., General Manager

Boston, May 1, 1903.

*A Book that is Easy to Use.*

WE have a letter in regard to Mr. Pearson's book, "Crude Rubber and Compounding Ingredients," commending it for reasons given below:

"It is a perfect encyclopedia. I wish specially to compliment you on the excellent arrangement of the matter. The comprehensive index at the back and the alphabetical subdivision of many of the chapters make it exceptionally convenient as a work of reference. To anyone who is interested, even to a slight degree, in rubber manufacture, your book is invaluable. I want to add that, while doubtless intended chiefly for a book of reference, you have succeeded in making it exceedingly readable."

*Wants His Paper Fresh.*

TO THE INDIA RUBBER PUBLISHING Co.—*Gentlemen:* Enclosed please find \$3 for one year's subscription to your valuable paper. I have been getting it second hand for some time, and now don't see how I can get along without it.

Yours, sincerely,

Bradford, Pennsylvania.

ESTABLISHED 1855.

Geo. A. Alden &amp; Co.,

IMPORTERS OF

India Rubber and  
Gutta Percha,170 SUMMER STREET,  
BOSTON.*Mention The India Rubber World when you order.*

BARATA &amp; SALVADOR,

Caixa Postal 380, — MANAOS (Brazil).

IMPORT AND EXPORT MERCHANTS.

SPECIALTIES IN

Rubber, Balata, Cocoa,

Piassaba, Hides, Egret Plumes, Balsam of Copaiba,

Andisoba, Tonka Beans, Vanilla, Brazil Nuts, etc.

*Mention The India Rubber World when you order.*India=Rubber (Crude)  
OTTO MEYER,

New England Representative,

A. T. Morse &amp; Co.,

New York.

No. 161 Summer St.,

BOSTON, MASS.

Telephone: 543 OXFORD.

Cable Address: MYERO.

*Mention The India Rubber World when you order.*Would-be Rubber Planters  
May Save Money.

A SHMORE RUSSAN, of 46, Leadenhall street, London, England, expert in the cultivation of tropical products, as Coffee, Cacao, Sugar-cane, Tobacco, etc., with special knowledge of India-rubber cultivation and collection in Mexico, Brazil, Africa, etc., is open to examine and report upon virgin lands or plantations in any part of the world. Terms, references, and specimen reports on application, as above.



## Small Advertisement Department.

### One Thousand for One.

THE INDIA RUBBER WORLD, New York.—*Editor*—The result we got from a small advertisement in your August number was such that we feel that you are entitled to know of it. It appeared in the "Small Advertisement Department," and we have done \$1000 worth of business which we can attribute directly to it, though the cost was only \$1.

—A. C.

### SITUATIONS OPEN.

TO MAN.—Belting department of mill making all grades and sizes of belting. Man with compound and formula. Must be able to give age, experience, and where last or now employed when applying. Address P. P. A., care of THE INDIA RUBBER WORLD. [440]

WANTED.—Competent man, who understands Rubber Compounding, working of calenders, and other rubber machinery. Must be able to handle help. State particulars of experience, wages expected, and age. Steady position for the night man. Address P. P. T., care of THE INDIA RUBBER WORLD. [441]

### SITUATIONS WANTED.

UN.—Jeune femme française ayant travaillé pendant dix ans dans des fabriques de caoutchouc américaines, connaissant à fond les méthodes de composition du pays et travail de mélange, connaissant le travail moule et la fabrication des bandages pleins et pneumatiques pour automobiles et bicyclettes, et toutes sortes d'objets mécaniques, désirerait position en France ou en Allemagne. Connait bien la langue anglaise. Excellentes références. Ecrire P. D. A. L. E., Poste Française, France. [429]

PRACTICAL man now employed, wishes to change. Fifteen years' experience in the Boot, Shoe, Tennis, and Mechanical line. Chances of advancement rather than salary desired. Can furnish and understand up-to-date compounds for Mechanical Goods, Boots, Shoes, Tennis, Clothing, Druggists' Sundries, and Insulated Wire. Address 307 High Street, Bristol, R. I. [430]

WANTED.—A man having had 17 years' experience at manufacturing Mechanical Goods, also Boots and Shoes, wishes a position with some good company where such knowledge will be of value either at the factory or as salesman. Address in continuation, Box 1032, Providence, R. I. [431]

WANTED.—A young man who has had several years' experience in the manufacture of Molded and Druggist Goods would like a position as Superintendent or Assistant Superintendent. Can furnish estimates and compounds. Address P. R., care of THE INDIA RUBBER WORLD. [432]

SUPERINTENDENT of large mill with long experience in all branches, desires to change. Address P. C. H., care of THE INDIA RUBBER WORLD. [417]

SUPERINTENDENT.—A man of unquestionable ability in manufacturing Mechanical Rubber Goods, Druggists' Sundries, and Tires of all descriptions, wishes to form new connection; willing to assume all responsibilities and guarantee the best of results compatible with given facilities. Best of references from last employers. Address SELF RELYING, care of THE INDIA RUBBER WORLD. [300]

CALENDER MAN, seven years' experience in Hard Rubber, and 14 years in Soft Rubber line. For the last 11 years I have had charge of the Mould and Calender Room in the Druggists' Sundries line. Understand compounding, rubber washing, and all kinds of calender work. Desire good position, and can furnish first class references. Address F. D., care of THE INDIA RUBBER WORLD. [442]

MECHANICAL ENGINEER is open for a position with some good reliable factory. He had the best of experience in constructional work, and has been in charge of every last equipped new plant and is ready to accept any position where he will make a good proposition. Can give best references. Address R. A. R., care of THE INDIA RUBBER WORLD. [443]

### COMPOUNDS

TO.—Manufacturers desiring up-to-date compounds and formulas for anything pertaining to Mechanical Rubber Goods, or Sundries, also latest substitutes, please address, W. B. NICKERSON, Langdon street, Providence, R. I. [438]

### FOR SALE.

ALL KINDS RUBBER WASTE.—We sell at low price, pure unvulcanized Rubber Scrap from Cement Waste. Write for free sample. Best cash prices paid for rubber scrap and waste. Old Wringer Rolls bought and sold a specialty. UNITED STATES WASTE RUBBER Co., No. 487 N. Warren avenue, Brockton, Mass.

### FOR SALE.

WASHER, Calender, Spreader, and 2 Friction Mills for sale; not scrap iron. We buy and sell everything in rubber machinery. Correspondence invited. W. C. COLEMAN CO, No. 154 West Broadway, New York. [439]

FOR SALE.—24 in. Vertical Corliss Engine, 100 H.P. Beryman Heater, 15" x 30" Grinder, 17" x 20" two opening knock Screw Press, Churn, Lathe, etc. Address J., care of THE INDIA RUBBER WORLD. [444]

### MACHINERY WANTED.

WANTED.—1 good second-hand 3 Roll Rubber Washing Machine. Give full particulars. Address A. L. M., care of THE INDIA RUBBER WORLD. [437]

### BUSINESS OPPORTUNITIES.

TO MANUFACTURERS.—Messrs. George R. Brown & Co., who are already doing a large business in Asbestos, Beltings, and Rubber amongst the largest buyers in the United Kingdom, both for home trade and export, are now open to take up sole agency for U. K. for Balata Beltings, Vulcanized Fiber, Rubber, Gutta-Percha, or specialties for the Engineering or Mechanical World. They have an extensive connection, offices, and large warehouse in the city of London, and a competent staff. Particulars to GEORGE R. BROWN & Co., 3, Jewry street, Aldgate, London, E. C., England. [433]

AGENCIES FOR CANADA WANTED.—The advertiser, at present representing in Canada one of the largest American Rubber Shoe companies, is desirous of securing other first class agencies for Hose, Belting, etc., Druggists' and Stationers' Sundries, Hard Rubber Goods, and Rubber Clothing of different kinds. Twenty years in the rubber business, a practical man, and well known to all classes of the trade. Early correspondence solicited. Address CANADIAN AGENCIES, care of Geo. A. Alden & Co., 170 Summer street, Boston, Mass.; to whom, by special permission, I refer. [434]

LONDON.—Pushing firm with good connection in England and Continent wants to represent first class American Rubber company, Surgical and Electrical, Soft and Hard Rubber Goods. Address P. D. H., care of THE INDIA RUBBER WORLD. [435]

RUBBER SPONGE.—I am prepared to make arrangements with a firm who can market my rubber sponges in large quantities, or will associate myself with rubber factory to both make and sell rubber sponges. Address CHEMIST, care of the INDIA RUBBER WORLD. [436]

### DR PETER T. AUSTEN

COUNSEL AND EXPERT IN MANUFACTURING CHEMISTRY  
Processes, Products, Patents, Wastes, Costs, Nuisances, etc. Experimental Tests and Investigations. Expert in Patent and Technical Litigation.

89 PINE STREET, NEW YORK.

Herbert S. Kimball, 101 Tremont Street, Boston, Mass.  
Chemical Engineer and Mill Architect,  
Engineering Problems Relating to the Rubber Industry.

Designs for Buildings and Equipment.

Mention The India Rubber World when you write.

### BY RETURN MAIL

Subscribers can learn where to buy any article or class of goods from the manufacturer, publisher or importer per conditions page one, each issue. On trial six months 10 cents. None free under any pretext.

GENERAL INFORMATION, 307 Main St., Binghamton, N. Y.

Mention The India Rubber World when you write.



Davol Rubber Co., Providence, R. I.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 Home Rubber Co., Trenton, N. J.  
 Manhattan Rubber Mfg. Co., New York.  
 N. J. Car Spring & Rubber Co., Jersey  
 City, N. J.  
 New York Belting & Packing Co., N. Y.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Reverse Rubber Co., Boston-New York.  
 Voorhees Rubber Mfg. Co., Jersey City.

**Deckle Straps.**

Boston Belting Co., Boston.  
 Combination Rubber & Belting Co.,  
 Bloomfield, N. J.  
 Liverpool Rubber Co., Liverpool, Eng.  
 Mechanical Rubber Co., Chicago.  
 New York Belting & Packing Co., N. Y.  
 Republic Rubber Co., Youngstown, O.  
 Reverse Rubber Co., Boston-New York.

**Door Springs.**

Hodgman Rubber Co., New York.

**Dredging Sleeves.**

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co.  
 Combination Rubber & Belting Co.,  
 Bloomfield, N. J.  
 N. J. Car Spring & Rubber Co., Jersey  
 City.  
 Republic Rubber Co., Youngstown, O.

**Fleshing Bands.**

Combination Rubber & Belting Co.,  
 Bloomfield, N. J.  
 Republic Rubber Co., Youngstown, O.

**Force Cups.**

Hodgman Rubber Co., New York.  
 "Forsyth" Combination Packing.  
 Boston Belting Co., Boston-New York.

**Fruit Jar Rings.**

Alden Rubber Co., Barborton, O.  
 Boston Woven Hose & Rubber Co.  
 Cleveland Rubber Co., Cleveland, O.  
 Combination Rubber & Belting Co.,  
 Bloomfield, N. J.



## RUBBER BUYERS' DIRECTORY—CONTINUED.

## MECHANICAL GOODS.

## MECHANICAL GOODS.

## MECHANICAL GOODS.

## MECHANICAL GOODS.

Crescent Belting & Packing Co., Trenton, N. J.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 Eureka Rubber Mfg. Co., Trenton, N. J.  
 Gutta Percha & Rubber Mfg. Co., New York  
 Republic Rubber Co., Youngstown, Ohio  
 N. J. Car Spring & Rubber Co., Jersey City  
 Whitman & Barnes Mfg. Co., Akron, O.

## Fuller Balls.

Combination Rubber & Belting Co., Bloomfield, N. J.  
 N. J. Car Spring & Rubber Co., Jersey City.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Whitman & Barnes Mfg. Co., Akron, O.

## Gas-Bags (Rubber).

Cleveland Rubber Co., Cleveland, O.  
 Davol Rubber Co., Providence, R. I.  
 Liverpool Rubber Co., Liverpool, Eng.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.  
 Peerless Rubber Mfg. Co., New York.  
 Tyer Rubber Co., Andover, Mass.  
 Voorhees Rubber Mfg. Co., Jersey City.

## Grain Drill Tubes.

Boston Belting Co., Boston-New York.  
 Republic Rubber Co., Youngstown, O.  
 Whitman & Barnes Mfg. Co., Akron, O.

## Hat Bags.

Alden Rubber Co., Barberton, O.  
 Boston Belting Co., Boston.  
 Boston Woven Hose & Rubber Co., Bloomfield, N. J.  
 Combination Rubber & Belting Co., Bloomfield, N. J.  
 Home Rubber Co., Trenton, N. J.  
 Manhattan Rubber Mfg. Co., New York.  
 Mattson Rubber Co., Mechanical Rubber Co., Chicago.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.  
 New York Belting & Packing Co., N. Y.  
 New York Rubber Co., New York.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston.

## Horse Shoe Pads.

Boston Woven Hose & Rubber Co., Bloomfield, N. J.  
 Crescent Belting & Packing Co., Trenton, N. J.  
 Peerless Rubber Mfg. Co., New York.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Revere Rubber Co., Boston-New York.  
 Voorhees Rubber Mfg. Co., Jersey City  
 Whitman & Barnes Mfg. Co., Akron, O.

## Hose Armor.

Crescent Belting & Packing Co., Trenton, N. J.

## Hose—Armored.

Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co., Bloomfield, N. J.  
 Crescent Belting & Packing Co., Trenton, N. J.  
 N. J. Car Spring & Rubber Co., Jersey City.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.  
 Voorhees Rubber Mfg. Co., Jersey City

## Hose Couplings.

Boston Woven Hose & Rubber Co.

## Hose Linings.

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co., Bloomfield, N. J.  
 Combination Rubber & Belting Co., Bloomfield, N. J.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 Eureka Rubber Mfg. Co., Trenton, N. J.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.  
 Peerless Rubber Mfg. Co., New York.

## Hose Menders.

Boston Woven Hose & Rubber Co.

## Hose—Protected.

Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co., Bloomfield, N. J.  
 Revere Rubber Co., Boston-New York.  
 Voorhees Rubber Mfg. Co., Jersey City

## Hose Rubber Lined.

Alden Rubber Co., Barberton, O.  
 Boston Belting Co., Boston-New York  
 Boston Woven Hose & Rubber Co., Bloomfield, N. J.  
 Combination Rubber & Belting Co., Bloomfield, N. J.

Combination Rubber & Belting Co., Bloomfield, N. J.  
 Crescent Belting & Packing Co., Trenton, N. J.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 Eureka Fire Hose Co., New York.  
 Eureka Rubber Mfg. Co., Trenton, N. J.  
 Gutta Percha & Rubber Mfg. Co., N. Y.  
 Gutta Percha and Rubber Mfg. Co. of Toronto.  
 Home Rubber Co., Trenton, N. J.  
 Manhattan Rubber Mfg. Co., New York.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.  
 New York Belting & Packing Co., N. Y.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston.  
 Jos. Stokes Rubber Co., Trenton, N. J.  
 Voorhees Rubber Mfg. Co., Jersey City.  
 Whitman & Barnes Mfg. Co., Akron, O.

## Hose—Submarine.

Boston Belting Co., Boston-New York.  
 Crescent Belting & Packing Co., Trenton, N. J.  
 Republic Rubber Co., Youngstown, O.  
 Boston Woven Hose & Rubber Co.

## Hose—Wire Wound.

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co., Bloomfield, N. J.  
 Combination Rubber & Belting Co., Bloomfield, N. J.  
 Crescent Belting & Packing Co., Trenton, N. J.  
 N. J. Car Spring & Rubber Co., Jersey City.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston.

## Lawn Sprinklers.

Boston Woven Hose & Rubber Co.

## Mallets (Rubber).

Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co., Bloomfield, N. J.  
 Peerless Rubber Mfg. Co., New York.  
 Revere Rubber Co., Boston-New York.

## Mould Work.

[See Mechanical Rubber Goods.]  
 Chicago Fire & Rubber Co., Chicago.  
 Crescent Belting & Packing Co., Trenton, N. J.  
 Davidson Rubber Co., Boston.  
 Davol Rubber Co., Providence, R. I.  
 Faultless Rubber Co., Akron, O.  
 Hodgman Rubber Co., New York.  
 La Crosse (Wis.) Rubber Mills Co., Mattson Rubber Co.  
 National India Rubber Co., Bristol, R. I.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Tyer Rubber Co., Andover, Mass.  
 Yatman Rubber Co., Harrison, N. J.

## "Nubian" Packing.

Voorhees Rubber Mfg. Co., Jersey City

## Oil Well Supplies.

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co., Bloomfield, N. J.  
 Combination Rubber & Belting Co., Bloomfield, N. J.  
 Crescent Belting & Packing Co., Trenton, N. J.  
 Lake Shore Rubber Co., Erie, Pa.  
 N. J. Car Spring & Rubber Co., Jersey City.

Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-Pittsburgh  
 Voorhees Rubber Mfg. Co., Jersey City  
 Whitman & Barnes Mfg. Co., Akron, O.

## Paper Machine Rollers.

Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co., Bloomfield, N. J.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.  
 Peerless Rubber Mfg. Co., New York.  
 Voorhees Rubber Mfg. Co., Jersey City

## Plumbers' Supplies.

Republic Rubber Co., Youngstown, O.

## Pump Buckets.

Boston Woven Hose & Rubber Co., Bloomfield, N. J.  
 Combination Rubber & Belting Co., Bloomfield, N. J.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.

## "Rainbow" Packing.

Peerless Rubber Mfg. Co., New York

## Reels—Hose.

Boston Belting Co., Boston-New York  
 Boston Woven Hose & Rubber Co., Bloomfield, N. J.

Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.

## Rings.

Boston Belting Co., Boston-New York  
 Combination Rubber & Belting Co., Bloomfield, N. J.  
 Peerless Rubber Mfg. Co., New York.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Republic Rubber Co., Youngstown, O.

## Rollers—Rubber Covered.

Alden Rubber Co., Barberton, O.  
 Boston Belting Co., Boston.  
 Boston Woven Hose & Rubber Co., Cleveland Rubber Co., Cleveland, O.  
 Combination Rubber & Belting Co., Bloomfield, N. J.  
 Crescent Belting & Packing Co., Trenton, N. J.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 Eureka Rubber Mfg. Co., Trenton, N. J.  
 B. F. Goodrich Co., Akron, O.  
 Home Rubber Co., Trenton, N. J.  
 Manhattan Rubber Mfg. Co., New York.  
 Mechanical Rubber Co., Chicago.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.  
 New York Belting & Packing Co., N. Y.  
 Peerless Rubber Mfg. Co., New York.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.

## Sewing Machine Rubbers.

Combination Rubber & Belting Co., Bloomfield, N. J.

## Springs—Rubber.

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co., Bloomfield, N. J.  
 Combination Rubber & Belting Co., Bloomfield, N. J.  
 Crescent Belting & Packing Co., Trenton, N. J.  
 Liverpool Rubber Co., Liverpool, Eng.  
 N. J. Car Spring & Rubber Co., Jersey City.  
 Peerless Rubber Mfg. Co., New York.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Republic Rubber Co., Youngstown, Ohio.  
 Revere Rubber Co., Boston-New York.  
 Voorhees Rubber Mfg. Co., Jersey City.

## Stair Treads.

Boston Belting Co., Boston-New York.  
 Boston Woven Hose & Rubber Co., Cleveland Rubber Co., Cleveland, O.  
 Combination Rubber & Belting Co., Bloomfield, N. J.  
 Crescent Belting & Packing Co., Trenton, N. J.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 Home Rubber Co., Trenton, N. J.  
 Liverpool Rubber Co., Liverpool, Eng.  
 Manhattan Rubber Mfg. Co., New York  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.  
 New York Belting & Packing Co., N. Y.  
 New York Rubber Co., New York.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.  
 Voorhees Rubber Mfg. Co., Jersey City.

## Tiling.

Combination Rubber & Belting Co., Bloomfield, N. J.  
 Gutta Percha & Rubber Mfg. Co., N. Y.  
 N. J. Car Spring & Rubber Co., Jersey City.  
 New York Belting & Packing Co., N. Y.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, Ohio.  
 Revere Rubber Co., Jersey City.

## Tires.

BICYCLE AND CARRIAGE.  
 Alden Rubber Co., Barberton, O.  
 Boston Woven Hose & Rubber Co., Continental Caoutchouc & Gutta-percha Co., Hanover.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 B. F. Goodrich Co., Akron, O.  
 Gutta Percha & Rubber Mfg. Co., Toronto.  
 Kokomo Rubber Co., Kokomo, Ind.  
 Lake Shore Rubber Co., Erie, Pa.  
 Liverpool Rubber Co., Liverpool, Eng.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Republic Rubber Co., Youngstown, O.  
 CARRIAGE.  
 Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co., N. J. Car Spring & Rubber Co., Jersey City.  
 Pennsylvania Rubber Co., Jeannette, Pa.

Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.  
 Western Rubber Co., Goshen, Ind.

## Truck Bands.

Alden Rubber Co., Barberton, O.  
 Boston Belting Co., Boston.  
 Boston Woven Hose & Rubber Co., Canadian Rubber Co. of Montreal.  
 Cleveland Rubber Co., Cleveland, O.  
 Combination Rubber & Belting Co., Bloomfield, N. J.  
 Empire Rubber Mfg. Co., Trenton, N. J.  
 Home Rubber Co., Trenton, N. J.  
 Manhattan Rubber Mfg. Co., New York.  
 Mechanical Rubber Co., Chicago.  
 N. J. Car Spring & Rubber Co., Jersey City, N. J.  
 New York Belting & Packing Co., N. Y.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Voorhees Rubber Mfg. Co., Jersey City  
 Whitman & Barnes Mfg. Co., Akron, O.

## Tubing.

[See Mechanical Rubber Goods]  
 American Hard Rubber Co., New York.  
 Crescent Belting & Packing Co., Trenton, N. J.  
 Davidson Rubber Co., Boston.  
 Davol Rubber Co., Providence, R. I.  
 Peerless Rubber Mfg. Co., New York.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Tyer Rubber Co., Andover, Mass.

## Tubing (Beer).

Boston Belting Co., Boston-New York  
 Boston Woven Hose & Rubber Co., Combination Rubber & Belting Co., Bloomfield, N. J.  
 Crescent Belting & Packing Co., Trenton, N. J.  
 Peerless Rubber Mfg. Co., New York.  
 Plymouth Rubber Co., Stoughton, Mass.  
 Republic Rubber Co., Youngstown, O.  
 Voorhees Rubber Mfg. Co., Jersey City.

## "Usudurian" Packing.

Revere Rubber Co., Boston-New York.

## Valve Balls.

Boston Belting Co., Boston.  
 Cleveland Rubber Co., Cleveland, O.  
 Combination Rubber & Belting Co., Manhattan Rubber Mfg. Co., New York  
 Mechanical Rubber Co., Chicago.  
 New York Belting & Packing Co., N. Y.  
 New York Rubber Co., New York.  
 Peerless Rubber Mfg. Co., New York.  
 Republic Rubber Co., Youngstown, O.  
 Whitman & Barnes Mfg. Co., Akron, O.

## Valve Discs.

American Hard Rubber Co., New York.  
 Boston Belting Co., Boston-New York.  
 Combination Rubber & Belting Co., Bloomfield, N. J.  
 Peerless Rubber Mfg. Co., New York  
 Republic Rubber Co., Youngstown, O.  
 Revere Rubber Co., Boston-New York.

## Valves.

[See Mechanical Rubber Goods]  
 Jenkins Bros., New York-Chicago.  
 Plymouth Rubber Co., Stoughton, Mass.

## Wringer Rolls.

Cleveland Rubber Co., Cleveland, O.  
 Combination Rubber & Belting Co., Bloomfield, N. J.  
 Republic Rubber Co., Youngstown, O.

## DRUGGISTS' AND STATIONERS' SUNDRIES

## Atomizers.

## Bandages.

## Bulbs.

## Water Bottles.

## Druggists' Sundries—General.

American Hard Rubber Co., New York.  
 C. J. Bailey & Co., Boston.  
 Canadian Rubber Co. of Montreal.  
 Cleveland Rubber Co., Cleveland, O.  
 Davidson Rubber Co., Boston.  
 Davol Rubber Co., Providence, R. I.  
 Faultless Rubber Co., Akron, O.  
 B. F. Goodrich Co., Akron, O.  
 Hardman Rubber Co., Belleville, N. J.  
 Hodgman Rubber Co., New York.  
 Tyer Rubber Co., Andover, Mass.

## Balls, Dolls and Toys.

Continental Caoutchouc & Gutta-percha Co., New York Rubber Co., New York.  
 Whitman & Barnes Mfg. Co., Akron, O.



## RUBBER BUYERS' DIRECTORY CONTINUED.

## DRUGGISTS' SUNDRIES

## Combs.

American Hard Rubber Co., New York  
Dr. H. Traun & Sons, Harburg, Ger-  
many.  
Schrader & Ehlers, New York.

## Elastic Bands.

Davidson Rubber Co., Boston.  
Davol Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York-Boston  
Tyer Rubber Co., Andover, Mass.  
Whitman & Barnes Mfg. Co., Akron, O.

## Erasive Rubbers.

Davidson Rubber Co., Boston.  
B. F. Goodrich Co., Akron, O.  
Mattson Rubber Co., New York.  
Yatman Rubber Co., Harrison, N. J.

## Finger Cots.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Faultless Rubber Mfg. Co., Akron, O.  
India Rubber Co., Akron, O.  
Pure Gum Specialty Co., Barberton, O.

## Gloves.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Davol Rubber Co., Providence, R. I.  
Faultless Rubber Co., Akron, O.  
India Rubber Co., Akron, O.  
Pure Gum Specialty Co., Barberton, O.

## Hard Rubber Goods.

American Hard Rubber Co., New York.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Davol Rubber Co., Providence, R. I.  
Schrader & Ehlers, New York.  
Stokes Rubber Co., Joseph, Trenton, N. J.  
Dr. H. Traun & Sons, Harburg, Ger-  
many.  
Tyer Rubber Co., Andover, Mass.

## Hospital Sheatings.

Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Conant Rubber Co., Boston.  
Davidson Rubber Co., Boston.  
Davol Rubber Co., Providence, R. I.  
Hodgman Rubber Co., New York.  
Plymouth Rubber Co., Stoughton, Mass.  
Tyer Rubber Co., Andover, Mass.

## Hot Water Bottles.

American Hard Rubber Co., New York.  
Cleveland Rubber Co., Cleveland, O.  
Davidson Rubber Co., Boston.  
Davol Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York-Boston.  
Tyer Rubber Co., Andover, Mass.

## Ice Bags.

Hodgman Rubber Co., New York.  
Pure Gum Specialty Co., Barberton, O.

## Ice Caps.

Pure Gum Specialty Co., Barberton, O.  
Tyer Rubber Co., Andover, Mass.

## Life Preservers.

Hodgman Rubber Co., New York.

## Mittens.

Davol Rubber Co., Providence, R. I.  
Faultless Rubber Co., Akron, O.

## Nipple Caps.

Peerless Rubber Mfg. Co., New York.

## Nipples.

Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Davidson Rubber Co., Boston.  
Davol Rubber Co., Providence, R. I.  
Faultless Rubber Co., Akron, O.  
Pure Gum Specialty Co., Barberton, O.  
Tyer Rubber Co., Andover, Mass.

## Notions.

American Hard Rubber Co., New York.  
Davidson Rubber Co., Boston.  
Tyer Rubber Co., Andover, Mass.

## Rulers.

American Hard Rubber Co., New York.

## Sponges (Rubber).

Faultless Rubber Co., Ashland, Ohio.  
Chicago Tire & Rubber Co., Chicago.  
The B. F. Goodrich Co., Akron, O.

## Stationers' Sundries.

American Hard Rubber Co., New York.  
Cleveland Rubber Co., Cleveland, O.  
Davidson Rubber Co., Boston.  
Davol Rubber Co., Providence, R. I.  
Goodyear Tire & Rubber Co., Akron, O.  
Hodgman Rubber Co., New York-Boston  
Tyer Rubber Co., Andover, Mass.

## Stoppies (Rubber).

Alden Rubber Co., Barberton, O.

## DRUGGISTS

Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Davol Rubber Co., Providence, R. I.  
Hodgman Rubber Co., New York.  
Manhattan Rubber Co., New York.  
New York Belting Co., New York.  
Tyer Rubber Co., Andover, Mass.  
Whitman & Barnes Mfg. Co., Akron, O.

## Surgical Appliances.

Faultless Rubber Co., Akron, O.

## Syringes.

American Hard Rubber Co., New York.  
Cleveland Rubber Co., Cleveland, O.  
Davol Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York.  
Tyer Rubber Co., Andover, Mass.

## Throat Bags.

Cleveland Rubber Co., Cleveland, O.  
Davol Rubber Co., Providence, R. I.  
Tyer Rubber Co., Andover, Mass.

## Tobacco Pouches.

Pure Gum Specialty Co., Barberton, O.  
Tyer Rubber Co., Andover, Mass.

RUBBER  
FOOTWEAR

## Boots and Shoes.

American Rubber Co., Boston.  
Joseph Banigan Rubber Co., Providence,  
R. I.  
Boston Rubber Shoe Co., Boston.  
L. Candee & Co., New Haven, Ct.  
Granby Rubber Co., Granby, Quebec.  
Gutta Percha & Rubber Mfg. Co. of  
Toronto.  
Hood Rubber Co., Boston.  
Jersey Rubber Shoe Co., New York.  
Liverpool Rubber Co., Liverpool, Eng.  
Looming Rubber Co., Williamsport, Pa.  
Meyer Rubber Co., New York.  
National India Rubber Co., Boston-  
Providence.  
United States Rubber Co., New York.  
Wales-Goodyear Rubber Co., Boston.  
Woonsocket Rubber Co., Providence.

## Heels and Soles.

Boston Woven Hose & Rubber Co.,  
Chicago Tire & Rubber Co., Chicago.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Continental Caoutchouc & Guttapereha  
Co., Hanover.  
Plymouth Rubber Co., Stoughton, Mass.

## Tennis Shoes.

American Rubber Co., Boston.  
Joseph Banigan Rubber Co., Provi-  
dence, R. I.  
Boston Rubber Shoe Co., Boston.  
Granby Rubber Co., Granby, Quebec.  
Liverpool Rubber Co., Liverpool, Eng.  
National India Rubber Co., Providence.  
United States Rubber Co., New York.

## Tennis Soles.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Jos. Stokes Rubber Co., Trenton, N. J.

## Wading Pants.

Hodgman Rubber Co., New York.

MACKINTOSHED  
AND SURFACE  
GOODS

## Air Goods (Rubber).

Cleveland Rubber Co., Cleveland, O.  
Davol Rubber Co., Providence, R. I.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York.  
New York Rubber Co., New York.  
National India Rubber Co., Providence.  
Tyer Rubber Co., Andover, Mass.

## Aprons.

Hodgman Rubber Co., New York.

## Barbers' Bibs.

Davol Rubber Co., Providence, R. I.  
Tyer Rubber Co., Andover, Mass.

## Bathing Caps.

Conant Rubber Co., Boston.  
Davol Rubber Co., Providence, R. I.  
D. C. Hall & Co., New York.

## Bellows Cloths.

Boston Rubber Co., Boston.

## MACKINTOSHED GOODS.

Cleveland Rubber Co., Cleveland, O.  
Hodgman Rubber Co., New York.  
La Crosse (Wis.) Rubber Mills Co.

## Calendering.

La Crosse (Wis.) Rubber Mills Co.  
Milford Rubber Co., Boston.  
Plymouth Rubber Co., Stoughton, Mass.

## Canoe Beds.

Hodgman Rubber Co., New York.

## Carriage Ducks and Drills.

Cleveland Rubber Co., Cleveland, O.  
Empire Rubber Mfg. Co., Trenton, N. J.  
Kureka Rubber Mfg. Co., Trenton, N. J.  
Gutta Percha & Rubber Mfg. Co., To-  
ronto.

## Clothing.

Cleveland Rubber Co., Cleveland, O.  
Conant Rubber Co., Boston.  
Granby Rubber Co., Granby, Quebec.  
Gutta Percha & Rubber Mfg. Co. of To-  
ronto.  
Hodgman Rubber Co., New York.  
Holden, Leonard & Co., Boston.  
La Crosse (Wis.) Rubber Mills Co.

## Cravenette.

Cravenette Co., Ltd.

## Diving Dresses.

Hodgman Rubber Co., New York.

## Dress Shields.

Conant Rubber Co., Boston.  
D. C. Hall & Co., New York.  
Hodgman Rubber Co., New York.  
Mattson Rubber Co., New York.

## Horse Covers.

Hodgman Rubber Co., New York.

## Leggings.

Cleveland Rubber Co., Cleveland, O.  
Hodgman Rubber Co., New York.

## Mackintoshes.

[See Clothing.]

## Proofing.

La Crosse (Wis.) Rubber Mills Co.  
Milford Rubber Co., Boston.  
Plymouth Rubber Co., Stoughton, Mass.

## Rain Coats.

Cravenette Co., Ltd.

## Sheets and Sheeting.

D. C. Hall & Co., New York.

DENTAL AND  
STAMP RUBBER

## Dental Gum.

American Hard Rubber Co., New York.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Tyer Rubber Co., Andover, Mass.

## Rubber Dam.

Cleveland Rubber Co., Cleveland, O.  
Davol Rubber Co., Providence, R. I.  
Hodgman Rubber Co., New York.  
Tyer Rubber Co., Andover, Mass.

## Stamp Gum.

Alden Rubber Co., Barberton, Ohio.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Mattson Rubber Co., New York.  
Mechanical Rubber Co., Chicago, Ill.  
N. J. Car Spring & Rubber Co., Jersey  
City, N. J.  
New York Belting & Packing Co., N. Y.

SPORTING  
GOODS

## Foot Balls.

Cleveland Rubber Co., Cleveland, O.  
B. F. Goodrich Co., Akron, O.  
Hodgman Rubber Co., New York.

## Golf Balls.

Boston Belting Co., Boston.  
Davidson Rubber Co., Boston.  
B. F. Goodrich Co., Akron, O.  
Whitman & Barnes Mfg. Co., Akron, O.

## Submarine Outfits.

Hodgman Rubber Co., New York.

## SPORTING GOODS.

## Sporting Goods.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Hodgman Rubber Co., New York.  
Tyer Rubber Co., Andover, Mass.

## Striking Bags.

Pure Gum Specialty Co., Barberton, O.

## ELECTRICAL

## Electrical Supplies.

American Hard Rubber Co., New York.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Lakeshore Rubber Co., Erie, Pa.  
Joseph Stokes Rubber Co., Trenton, N. J.  
Massachusetts Chemical Co., Boston.  
Tyer Rubber Co., Andover, Mass.

## Friction Tape.

Boston Belting Co., Boston.  
Boston Woven Hose & Rubber Co.  
Cleveland Rubber Co., Cleveland, O.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
B. F. Goodrich Rubber Co., Akron, O.  
Massachusetts Chemical Co., Boston.  
Mechanical Rubber Co., Chicago.  
Home Rubber Co., Trenton, N. J.  
Revere Rubber Co., Boston-New York.  
Whitman & Barnes Mfg. Co., Akron, O.

## Hard Rubber Goods.

American Hard Rubber Co., New York.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Joseph Stokes Rubber Co., Trenton, N. J.

## Insulating Compounds.

Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Gutta-Percha & Rubber Mfg. Co., To-  
ronto.  
Massachusetts Chemical Co., Boston.

## Insulated Wire and Cables.

National India Rubber Co., Providence.

## Splicing Compound.

Home Rubber Co., Trenton, N. J.

## MISCELLANEOUS

## Architect.

Herbert S. Kimball, Boston.

## Books for Rubber Men.

India Rubber Publishing Co., N. Y.  
Cement (Rubber).

Boston Belting Co., Boston.  
Combination Rubber & Belting Co.,  
Bloomfield, N. J.  
Manhattan Rubber Mfg. Co., New York.  
N. J. Car Spring & Rubber Co., Jersey  
City, N. J.

## Chemical Analyses.

Durand Woodman, Ph D., New York.  
H. L. Terry, Manchester, England.

## Chemical Expert.

Peter T. Austen, New York.

## Investments.

Consolidated Rubber Plantations Co. of  
Ubero, Boston.  
La Zacualpa Rubber Plantation Co., San  
Francisco.

## Rubber Code.

International Cable Directory Co., N. Y.

## Railway.

Seaboard Air Line Railway.

## Rubber Lands For Sale.

Ashmore-Russan, London, England  
J. H. Fitzgerrall, Mexico.  
O. H. Harrison, San Francisco.

## Rubber Planting.

Consolidated Rubber Plantations Co. of  
Ubero, Boston.  
La Zacualpa Rubber Plantation Co., San  
Francisco.

## Steamers.

Marine Iron Wks., Chicago.

## Thermometers.

Hohmann & Maurer Mfg. Co., Roches-  
ter, N. Y.  
Helios-Upton Co., Peabody, Mass.



## MACHINERY AND SUPPLIES FOR RUBBER MILLS.

RUBBER  
MACHINERY

**Acid Tanks.**  
Birmingham Iron Foundry, Derby, Ct.  
**Band Cutting Machine.**  
A. Adamson, Akron, O.  
Birmingham Iron Foundry, Derby, Ct.  
**Belt Folding Machines.**  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
**Belt Slitters.**  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
**Belt Stretchers.**  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
Hogson & Pettis Mfg. Co., New Haven, Ct.  
**Blowers.**  
B. F. Sturtevant Co., Boston.  
**Boilers.**  
William R. Thropp, Trenton, N. J.  
**Boot Trees.**  
Metal Last & Tree Co., Boston.  
**Buckles.**  
The Weld Mfg. Co., Boston.  
**Calenders.**  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
Textile-Finishing Machinery Co., Providence, R. I.  
Thos. F. Stevenson, New York.  
**Castings.**  
A. Adamson, Akron, O.  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
**Chucks (Lathe).**  
Hogson & Pettis Mfg. Co., New Haven, Ct.  
**Churns.**  
American Tool & Machine Co., Boston.  
**Cloth Dryers.**  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
**Clutches.**  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
**Crackers.**  
Birmingham Iron Foundry, Derby, Ct.  
**Devulcanizers.**  
Birmingham Iron Foundry, Derby, Ct.  
Edred W. Clark, Hartford, Ct.  
Excelsior Machine Wks., Akron, Ohio.  
William R. Thropp, Trenton, N. J.  
**Dies.**  
Excelsior Machine Wks., Akron, Ohio.  
Hogson & Pettis Mfg. Co., New Haven, Ct.  
**Doubling Machines.**  
American Tool & Machine Co., Boston.  
**Drying Apparatus.**  
B. F. Sturtevant Co., Boston.  
**Drying Machines.**  
Birmingham Iron Foundry, Derby, Ct.  
Textile-Finishing Machinery Co., Providence, R. I.  
American Vacuum Drying Machine Co., New York.  
**Dynamos.**  
B. F. Sturtevant & Co., Boston.  
**Embossing Calenders.**  
Textile-Finishing Machinery Co., Providence, R. I.  
**Electric Power Transmission.**  
W. B. Smith Whaley & Co., Boston, Mass.—Columbia, S. C.  
**Engines.**  
B. F. Sturtevant Co., Boston.  
William R. Thropp, Trenton, N. J.  
**Engraving (Roll).**  
Hogson & Pettis Mfg. Co., New Haven, Ct.  
**Exhaust Fans and Heads.**  
B. F. Sturtevant Co., Boston.  
**Factory Construction.**  
Herbert S. Kimball, Boston.  
**Fans (Electric).**  
B. F. Sturtevant & Co., Boston.  
**Fans (Exhaust and Ventilating).**  
B. F. Sturtevant & Co., Boston.  
**Forges.**  
B. F. Sturtevant & Co., Boston.  
**Gas Exhausters.**  
B. F. Sturtevant & Co., Boston.

## RUBBER MACHINERY.

**Gearing.**  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
**Generating Sets.**  
B. F. Sturtevant Co., Boston.  
**Grinders.**  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
Thos. F. Stevenson, New York.  
William R. Thropp, Trenton, N. J.  
**Hangers.**  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
**Hard Rubber Lathes.**  
A. Adamson, Akron, Ohio.  
**Heating Apparatus.**  
B. F. Sturtevant Co., Boston.  
**Hose Making Machines.**  
Birmingham Iron Foundry, Derby, Ct.  
**Hose Wrapping Machines.**  
A. Adamson, Akron, Ohio.  
Birmingham Iron Foundry, Derby, Ct.  
**Hydraulic Accumulators.**  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
**Jar Ring Lathes.**  
A. Adamson, Akron, Ohio.  
Birmingham Iron Foundry, Derby, Ct.  
Excelsior Machine Wks., Akron, Ohio.  
William R. Thropp, Trenton, N. J.  
**Machinists' Tools.**  
Hogson & Pettis Mfg. Co., New Haven, Ct.  
**Matrixes.**  
Excelsior Machine Wks., Akron, Ohio.  
**Mechanical Draft.**  
B. F. Sturtevant Co., Boston.  
**Mixers.**  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
Thos. F. Stevenson, New York.  
William R. Thropp, Trenton, N. J.  
**Motors (Electric).**  
B. F. Sturtevant Co., Boston.  
**Moulds.**  
A. Adamson, Akron, Ohio.  
Birmingham Iron Foundry, Derby, Ct.  
Excelsior Machine Wks., Akron, Ohio.  
Hogson & Pettis Mfg. Co., New Haven, Ct.  
Williams Foundry & Machine Co., Akron, O.  
**Pillow Blocks.**  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
**Post Hangers.**  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
**Power Transmission.**  
W. B. Smith Whaley & Co., Boston.  
**Presses (for Rubber Work.)**  
A. Adamson, Akron, O.  
Birmingham Iron Foundry, Derby, Ct.  
Boomer & Boschert Press Co., Syracuse, N. Y.  
Edred W. Clark, Hartford, Ct.  
Excelsior Machine Wks., Akron, Ohio.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
Thos. F. Stevenson, New York.  
William R. Thropp, Trenton, N. J.  
Williams Foundry & Machine Co., Akron, O.  
**Pumps.**  
Birmingham Iron Foundry, Derby, Ct.  
Boomer & Boschert Press Co., Syracuse, N. Y.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
Thos. F. Stevenson, New York.  
**Racks for Boot and Shoe Cars.**  
Hogson & Pettis Mfg. Co., New Haven, Ct.  
**Reducing Valves.**  
Mason Regulator Co., Boston.  
**Rollers.**  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
**Rollers (Hand).**  
Hogson & Pettis Mfg. Co., New Haven, Ct.  
**Second-Hand Machinery.**  
Philip McGrory, Trenton, N. J.  
Thos. F. Stevenson, New York.  
**Shafting.**  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
**Special Rubber Machinery.**  
Wellman Safe Cutting Machine Co., Medford, Mass.  
**Spreaders.**  
American Tool & Machine Co., Boston.  
Birmingham Iron Foundry, Derby, Ct.

## RUBBER MACHINERY.

**Steam Traps and Specialties.**  
Jenkins Bros., New York.  
Mason Regulator Co., Boston.  
B. F. Sturtevant Co., Boston.  
**Steel Stamps.**  
Hogson & Pettis Mfg. Co., New Haven, Ct.  
**Stitchers (Hand).**  
Hogson & Pettis Mfg. Co., New Haven, Ct.  
**Thermometers.**  
Hohmann & Maurer Mfg. Co., Rochester, N. Y.  
Helios-Upton Co., Peabody, Mass.  
**Tubing Machines.**  
A. Adamson, Akron, O.  
Edred W. Clark, Hartford, Ct.  
John Royle & Sons, Paterson, N. J.  
Williams Foundry & Machine Co., Akron, O.  
**Vacuum Drying Chambers.**  
American Vacuum Drying Machine Co., New York.  
**Varnishing Machines.**  
Birmingham Iron Foundry, Derby, Ct.  
**Ventilating Fans.**  
B. F. Sturtevant Co., Boston.  
**Vulcanizers.**  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
Thos. F. Stevenson, New York.  
William R. Thropp, Trenton, N. J.  
**Washers.**  
Birmingham Iron Foundry, Derby, Ct.  
Farrel Foundry & Mach. Co., Ansonia, Ct.  
Thos. F. Stevenson, New York.  
William R. Thropp, Trenton, N. J.  
**Wrapping Machines.**  
A. Adamson, Akron, O.  
Birmingham Iron Foundry, Derby, Ct.  
Excelsior Machine Wks., Akron, Ohio.

FACTORY  
SUPPLIES

**Acid (Carbolic).**  
Barrett Mfg. Co., Philadelphia.  
**Antimony, Sulphurets of.**  
GOLDEN.  
Actien-Ges. Georg Egestorff's Salzwerke, Linden, Germany.  
Atlas Chemical Co., Newtonville, Mass.  
GOLDEN AND CRIMSON.  
Joseph Cantor, New York.  
Stamford (Conn.) Rubber Supply Co.  
Typke & King, London, England.  
**Balata.**  
George A. Alden & Co., Boston.  
**Baskets (Carrying).**  
Morris & Co., Yardville, N. J.  
**Benzol.**  
Barrett Mfg. Co., Philadelphia.  
Samuel Cabot, Boston.  
**Black Hypo.**  
Joseph Cantor, New York.  
Typke & King, London, England.  
**Boxes (Wood).**  
Henry H. Sheip & Co., Philadelphia.  
**Carbon Bisulphide.**  
George W. Speaight, New York.  
**Chemicals.**  
Toch Bros., New York.  
**Colors.**  
Joseph Cantor, New York.  
Toch Bros., New York.  
Typke & King, London, England.  
**Crude Rubber.**  
George A. Alden & Co., Boston.  
Otto Meyer, Boston.  
Rubber Trading Co., New York-Boston.  
**Drills.**  
Catlin & Co., New York.  
J. H. Lane & Co., New York.  
**Duck (Cotton).**  
Catlin & Co., New York.  
J. H. Lane & Co., New York.  
Morris & Co., Yardville, N. J.  
**Fabrics.**  
Holden, Leonard & Co., Boston.  
**Fossil Flour.**  
Fossil Flour Co., New York.  
**Gutta-Percha.**  
George A. Alden & Co., Boston.  
Rubber Trading Co., New York-Boston.  
**Hose Bands, Straps, and Menders.**  
Boston Woven Hose & Rubber Co.  
William Yerdon, Fort Plain, N. Y.  
**Hose Brands.**  
Boston Woven Hose & Rubber Co.  
**Hose Pipes, Nozzles, and Couplings.**  
Boston Woven Hose & Rubber Co.  
Eureka Fire Hose Co., New York.  
Revere Rubber Co., Boston.  
**Infusorial Earth.**  
Stamford (Conn.) Rubber Supply Co.  
**Lampblack.**  
Samuel Cabot, Boston.  
**Lasts (Aluminum).**  
Metal Last & Tree Co., Boston.  
**Lawn-Hose Supporters.**  
C. J. Bailey & Co., Boston.  
**Lead—Blue.**  
Picher Lead Co., Chicago, Ill.  
**Lead—Sublimed White.**  
Picher Lead Co., Chicago, Ill.  
**Manufacturers' Supplies.**  
Rubber Trading Co., New York-Boston  
Stamford (Conn.) Rubber Supply Co.  
**Naphtha.**  
Barrett Mfg. Co., Philadelphia.  
**Oils.**  
Akron Commercial Co., Akron, O.  
**Paris White and Whiting.**  
H. F. Taintor Mfg. Co., New York.  
**Pitch.**  
E. B. Weed & Co., Fayetteville, N. C.  
**Reclaimed Rubber.**  
Bloomington (N. J.) Soft Rubber Co.  
New Century Rubber Co., Philadelphia.  
New Jersey Rubber Co., Lambertville, N. J.  
Pequanoc Rubber Co., Butler, N. J.  
Philadelphia Rubber Wks., Philadelphia.  
Raymond Rubber Co., Titusville, N. J.  
Jos. Stokes Rubber Co., Trenton, N. J.  
U. S. Rubber Reclaiming Wks., N. Y.  
**AGENTS AND DEALERS.**  
G. Brice, Paris, France.  
W. C. Coleman Co., New York.  
Philip McGrory, Trenton, N. J.  
H. P. Moorhouse, Paris, France.  
Rubber Trading Co., New York-Boston.  
Wm. Somerville's Sons, Liverpool, Eng.  
**Rubber Waste**  
Wm. H. Cummings & Sons, New York.  
W. C. Coleman Co., New York.  
United States Waste Rubber Co., Brockton, Mass.  
**Scrap Rubber.**  
Bers & Co., Philadelphia.  
W. C. Coleman Co., New York.  
Wm. H. Cummings & Sons, New York.  
Theodore Hofeller & Co., Buffalo, N. Y.  
Philip McGrory, Trenton, N. J.  
Wm. Somerville's Sons, New York.  
**Substitute.**  
Bonner Mfg. Co., Boston, Mass.  
Glucose Sugar Refining Co., Chicago.  
Joseph Cantor, New York  
Massachusetts Chemical Co., Boston.  
Typke & King, London, England.  
Stamford (Conn.) Rubber Supply Co.  
**Sulphur.**  
Battelle & Renwick, New York.  
T. & S. C. White Co., New York.  
**Sulphur Chloride.**  
George W. Speaight, New York.  
Stamford (Conn.) Rubber Supply Co.  
**Tire Fabrics.**  
Catlin & Co., New York.  
J. H. Lane & Co., New York.  
Morris & Co., Yardville, N. J.  
**Waterproofing Fabrics.**  
Holden, Leonard & Co., Boston.  
**Whiting.**  
H. F. Taintor Mfg. Co., New York.  
**Zinc Sulphide.**  
Joseph Cantor, New York.  
Typke & King, London, England.  
**Zinc White.**  
New Jersey Zinc Co., New York.  
Stamford (Conn.) Rubber Supply Co.



# THE REPUBLIC RUBBER CO.

MAIN OFFICE AND FACTORY  
YOUNGSTOWN, OHIO

BRANCH STORE  
47 WARREN STREET  
NEW YORK

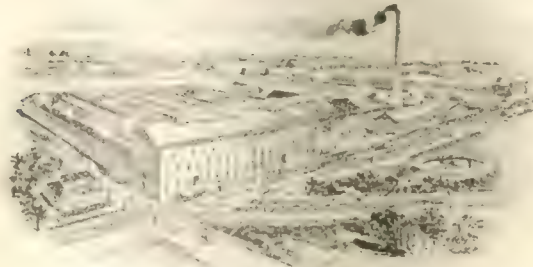
PITTSBURG  
106 MARKET ST.

CHICAGO  
MARKET AND RANDOLPH STS.

MANUFACTURERS  
EXCLUSIVELY

**HIGH GRADE  
MECHANICAL  
RUBBER GOODS**

Our Policy is to Maintain Quality  
under all conditions



MOST MODERN  
MECHANICAL

**RUBBER GOODS**

FACTORY IN THE  
WORLD

Equipped Throughout with  
**ELECTRICALLY OPERATED  
MACHINERY**

PATENTEES AND SOLE MANUFACTURERS

**SEARCHLIGHT PACKING  
CROSS ARM Wire Insertion TUBULAR GASKET  
Copper Joint**

*Mention the India Rubber World when you write.*

## Invest in Shares of La Zacualpa Rubber Plantation.



OUR TWELVE YEAR OLD TREES PRODUCING RUBBER.

Interest payable January and July from the actual production and sale of rubber from cultivated trees.

This PLANTATION is acknowledged to be the one company that has done something and actually solved the problem of rubber cultivation.

It is highly endorsed from every source and its shares afford an investment not to be overlooked.

**LA ZACUALPA RUBBER PLANTATION,**

No. 713 MARKET STREET,

SAN FRANCISCO, CALIFORNIA.

EASTERN REPRESENTATIVES:

**BROOKS BROTHERS & COMPANY,**

No. 35 WALL STREET,

NEW YORK.

*Mention the India Rubber World when you write.*



# REVERE RUBBER COMPANY.

Manufacturers of a  
HIGH CLASS of

## MECHANICAL RUBBER GOODS.

HOME OFFICE:

77 Bedford and 72 Kingston Streets,  
BOSTON, MASSACHUSETTS.

BRANCHES:

NEW YORK, N. Y., 59 Reade Street.  
PITTSBURG, PA., 2-8 Wood Street.  
CHICAGO, ILL., 168 Lake Street.  
MINNEAPOLIS, MINN., 210 Nicollet Avenue.  
NEW ORLEANS, LA., 410 Carondelet Street.  
SAN FRANCISCO, CAL., 527 Market Street.

FACTORIES:

CHELSEA, MASSACHUSETTS.

*Mention The India Rubber World when you write.*

# HIGH GRADE RUBBER GOODS

MADE IN CANADA

**BELTING  
PACKINGS  
VALVES  
VALVE SHEET  
TUBING  
and  
CASKETS**

**RUBBER HOSE**

—FOR—

**WATER  
SUCTION  
STEAM  
AIR  
Fire Protection  
ACIDS  
BREWERS  
Pneumatic Tools**

SUPERIOR  
.. IN ..  
QUALITY

SATISFACTORY  
.. IN ..  
SERVICE



Sole Manufacturers of the celebrated "MALTESE CROSS" and "LION" Brands Rubbers.  
The best fitting, best wearing and most stylish rubber footwear on the market.

SPECIAL ATTENTION GIVEN TO EXPORT ORDERS



## The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

*Mention The India Rubber World when you write.*

Head Office Warerooms—45-49 Front St., W., TORONTO, CANADA.

= = THE = =

# GRANBY RUBBER CO.

HIGHEST GRADE

## RUBBER BOOTS, SHOES, AND CLOTHING.

**Factories: GRANBY, QUEBEC.**

S. H. C. MINER, President,  
J. H. McKECHNIE, Gen'l Mgr.

*Mention The India Rubber World when you write.*

**BOUND VOLUMES**

- - OF - -

**THE INDIA RUBBER WORLD**

Make a desirable addition to the office equipment or the private library of any man who is interested in any branch of the rubber business.

The twelve monthly numbers from October, 1901, to September, 1902, inclusive, have been bound in half Morocco, forming a handsome and durable volume.

**Price, \$5.00, Prepaid.**

Back volumes at the same price.

**THE INDIA RUBBER PUBLISHING CO.,**  
No. 150 Nassau Street, New York.

# GORHAM RUBBER COMPANY,

Manufacturers and Distributors for the Pacific Coast and the Orient

OF RUBBER GOODS OF EVERY DESCRIPTION.

MAIN OFFICE: **SAN FRANCISCO, CALIF.** BRANCH: **SEATTLE, WASHINGTON.**

*Mention The India Rubber World when you write.*

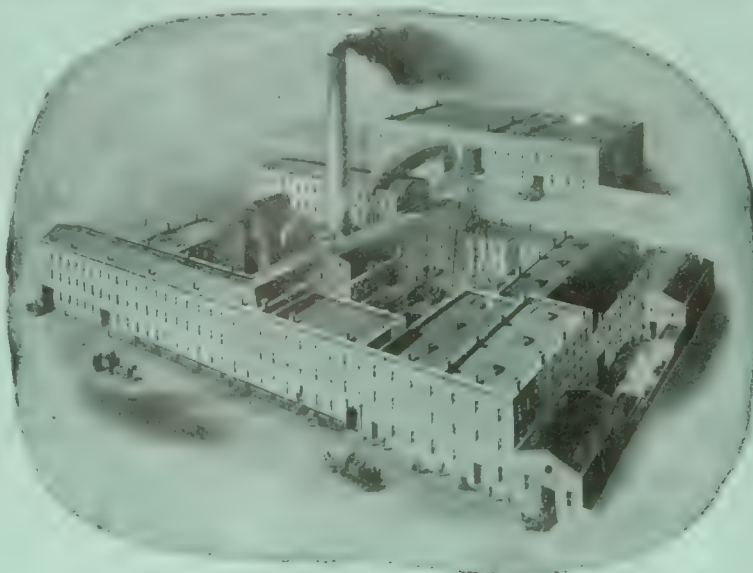


# THE GUTTA PERCHA & RUBBER MFG. CO.

ESTABLISHED 1855

MANUFACTURERS OF

**Rubber Belting, Packing, Hose, Mats, Matting**  
AND MECHANICAL RUBBER GOODS OF EVERY KIND.



## WAREROOMS:

Nos. 126-128 Duane St.  
NEW YORK.

## BRANCH STORES:

96-98 Lake St., CHICAGO.  
71 Pearl St., BOSTON.  
221 Chestnut St., PHILADELPHIA.  
30 & 32 Fremont St.,  
SAN FRANCISCO.

A. SPADONE, Pres.

HENRY SPADONE, Vice-Pres.  
*Mention the India Rubber World when you write.*

MATTHEW HAWK, Treas.

## HOOD RUBBER CO.

—  
RUBBER

## BOOTS and SHOES

*Mention The India Rubber World when you write.*

1856 — FORTY-SEVEN YEARS — 1903

EXPERIENCE

# TYRIAN DRUGGISTS' RUBBER GOODS

OF ALL DESCRIPTIONS.

RUBBER MOULD WORK A SPECIALTY.

**TYER RUBBER COMPANY,**  
Andover, Mass.

*Mention The India Rubber World when you write.*













New York Botanical Garden Library



3 5185 00261 1075



